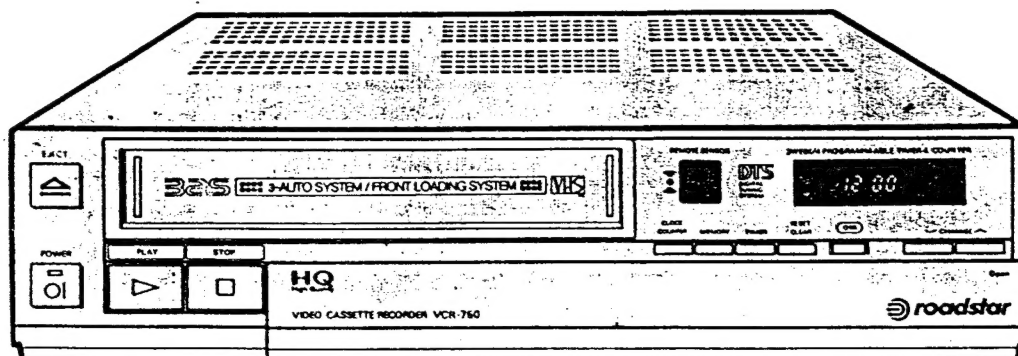




SVM-P7-01

Service Manual

VIDEO CASSETTE RECORDER VCR-750/750I



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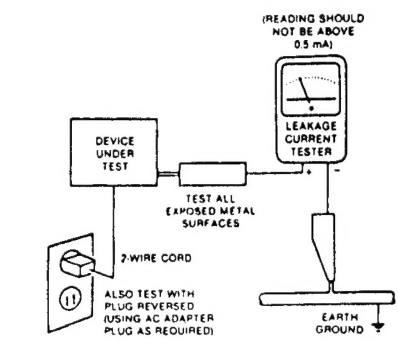
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SAFETY PRECAUTIONS

Before returning a Video Cassette Recorder to the customer, always make a safety check of the entire instrument, including, but not limited to the following items:

- Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reassembling the instrument, be sure to put back in place all protective devices, including, but not limited to nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.
- Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) improperly fitted and/or incorrectly secured cabinet covers.
- Antenna Cold Check—With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, to each of the coaxial connectors. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.



AC Leakage Test

- Leakage Current Hot Check—With the instrument completely reassembled plug the AC line cord directly into a 220V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts

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of the instrument (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, controls shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamperes. Reverse the instrument power cord plug in the outlet and repeat test.

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR CONNECTING ANTENNA OR ACCESSORIES.

5. AC Leakage Test

Avoid shock hazards. The television instrument, accessory, or cable(s) to which this VCR is connected should have the applicable sections of the antenna cold check and the leakage current hot check performed. Do not connect this VCR to a TV antenna, cable or accessory that exhibits excessive leakage currents.

- Read and comply with all caution and safety-related notes on or inside the VCR cabinet and chassis.
- Design Alteration Warning—Do not alter or add to the mechanical or electrical design of this Video Cassette Recorder. Design alterations and additions, including, but not limited to, circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the service technician responsible for personal injury or property damage resulting therefrom.
- Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts—be sure that leads and components do not touch thermally hot parts c. the AC supply, and d. antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.

- Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6. PRODUCT SAFETY NOTICE

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a (T) or (D) on schematics and parts list. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. Products Safety is under review continuously and new instructions are issued whenever appropriate.

Electrostatically Sensitive (ES) devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices*. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

- Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
- Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed. CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
- Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

- Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
- After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
- Use only a grounded-tip soldering iron to solder or unsolder ES devices.
- Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate static electrical charges sufficient to damage ES devices.
- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

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1. GENERAL DESCRIPTION

1-1. GENERAL INFORMATION

•Operation Modes

Play, still, forward search, reverse search, record, record pause, fast forward and rewind operations are possible. 2-Video Head System uses two video heads on the upper cylinder. Two video heads (CH-1/CH-2: +60 μ m/-80 μ m) are used during record and playback.

•Unattended (Timer) Recording

The programmable timer can be preset up to two weeks in advance to record up to 4 preselected programs. The Timer turns your VCR on and off and changes channels automatically.

•One Touch Recording (OTR)

Express Recording permits unattended recording with the touch of a button. You can record a program for the time from 1 minute to the desired amount without setting the Programmable Timer.

•Cable TV Tuner

Allows you to tune mid and super-band cable channels without the use of an external device. The tuning system makes cable television channel selection on most systems as easy and convenient as VHF and UHF tuning.

•Memory Stop

When the Multifunction Display is in the "Counter" Position, a tape that is being rewound automatically stops when the Tape Counter reads 9999.

•Automatic Power On

The VCR will automatically turn power on when you insert a cassette without pushing POWER button.

•Automatic Playback

When you insert the cassette with the Record Safety Tab removed, the VCR will turn power on and playback automatically without pushing POWER and PLAY button. If you use the cassette with Record Safety Tab intact, the VCR will turn power on automatically and be in STOP mode but do not playback.

•Automatic Rewind

The VCR automatically rewinds the tape when the end of the tape is reached. To avoid accidental erasure during Timer Recording or Express Recording, it stops at the end of the tape but does not rewind.

•Mode Indication in the Multifunction Display

The VCR modes will be indicated in the Multifunction Display with a sign or a character of white or red color so the operator can see the modes easily.

1-2 SPECIFICATIONS

Format:	VHS PAL standard
Recording System:	Rotary, azimuth two-head helical scanning system
Television System:	PAL color and B/W signal
Tape Width:	12.65 mm (1/2 inch)
Tape Speed:	23.39 mm/sec
Record/Playback Time:	4 hours with E-240 Tape
FF/REW Time:	Less than 6 min. with E-180
Heads:	1) Video: 2 Rotary heads 2) Audio/Control: 1 stationary head (Mono) 3) Full track erase: 1 stationary head
Video Input:	0.5 to 2.0 Vp-p 75 ohm unbalanced
Output:	1.0 Vp-p 75 ohm unbalanced
Signal-to-Noise Ratio:	Better than 40dB
Horizontal Resolution:	More than 240 Lines

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•Remote Control with Special Effects

Hand-Held unit offers play, stop, record, rewind, fast forward, pause/still, direct position selection (17 keys), channel up/down, power on/off, one touch search (forward or reverse).

•Cable-Ready Frequency Synthesis Tuner

You can select unscrambled Cable TV channels S1 to S20, without using an external converter. The frequency-synthesis tuner can select total 80 channels including 20 cable channels.

1-3. OPERATING CONTROLS AND FUNCTIONS

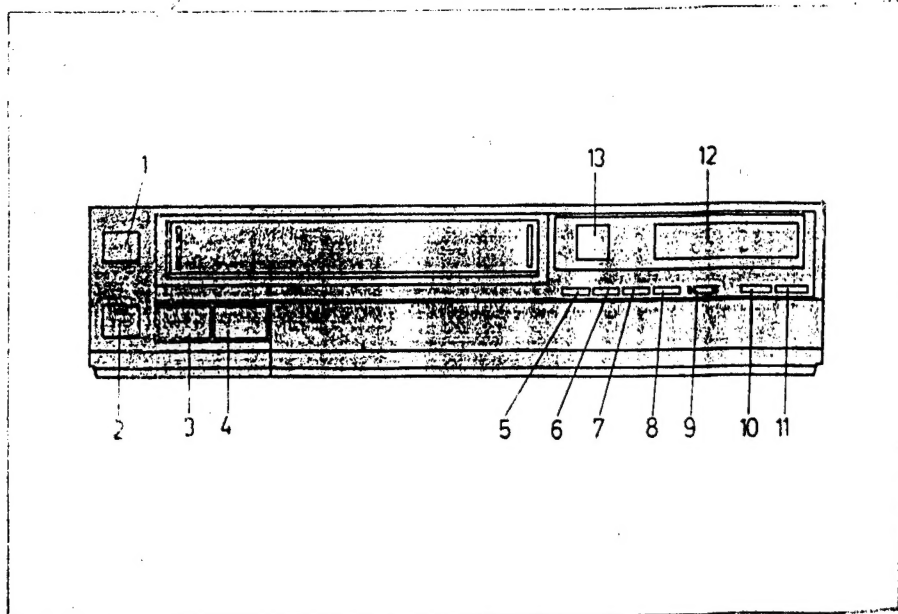


Fig. 1 Front View

1. **EJECT Button**
Press from stop position to remove a cassette. And the "Tape-in" indicator (LED) in the Multifunction Display will disappear.
2. **POWER Button**
Press this button to turn the VCR power on and off. Red LED on this button lights when power is on.
3. **PLAY Button**
Press to play pre-recorded material. "▷" sign will appear in the Multifunction Display.
4. **STOP Button**
Press to stop the tape during playback, recording, rewind, fast forward and pause/still.
5. **COUNTER Button**
The tape counter or the clock can be selected and viewed by each push of this button.
6. **MEMORY Button**
Use this button to easily find the beginning of a particular segment you want to repeat. Press before rewinding, then the cassette will rewind to a counter reading of 9999.

7. **TIMER BUTTON**
Press after programming for unattended recording.
8. **RESET/CLEAR Button**
Press to reset the counter to 0000 or to clear the timer setting program. It is used to reset the Counter in the counter position and to clear the program in the Timer Program position.
9. **OTR (ONE TOUCH RECORDING) Button**
It enables you to do impromptu recording at any time. Just select the channel and press the OTR button to desired amount of recording time with automatic power off at the end of segment. 30 minutes increased by each push.
10. **CHANNEL DOWN (V) Buttons**
Press to select the channel you wish to record or view on
11. **CHANNEL UP (V) Button**
Press to select the channel you wish to record or view on

19. **PRESET Button**
Push this button when you have to set TV channel in your VCR and push this button when channel setting is ended.
20. **SEARCH Button**
Push this button to find TV channel continually and automatically.
21. **CLEAR Button**
Push this button to delete stored channel.
22. **AFT BUTTON**
Push this button for the fine picture.
23. **P-CHECK Button**
Press to check timer program or to set timer program.
24. **T-ADJ (Time Adjust) Button**
Use to set the clock.
25. **DAY Button**
Use to set the day for the present time or timer program.
26. **TV/AUX/AV SELECT SWITCH**
Select recording signal from the tuner or Audio/Video in JACK, or SCART JACK (Euroconnector).
27. **Time-/MFT-**
Use to set the clock downward and to set the timer for unattended recording. This button enables you to tune manually after you select preset mode to push the PRESET button.

28. **Time+/MFT+**
Use to set the clock upward and to set the timer for unattended recording. This button enables you to tune manually after you select preset mode to push the PRESET button.
29. **V-LOCK CONTROL**
In still mode, Adjust this volume to minimize vertical shaking on the TV screen.
30. **TRACKING Control**
When playing prerecorded tapes or tapes on the other unit, "noise" or black and white streaks may appear on your TV screen. If this occurs, rotate the Tracking Control on either direction until you see a clear picture. Keep this knob in the center position at all times (Unless an adjustment is required).
31. **PICTURE Control**
Use this control to soften or sharpen the VIDEO picture on the TV screen. Rotate this control until you find a desired image. This control should normally be left in its center position.

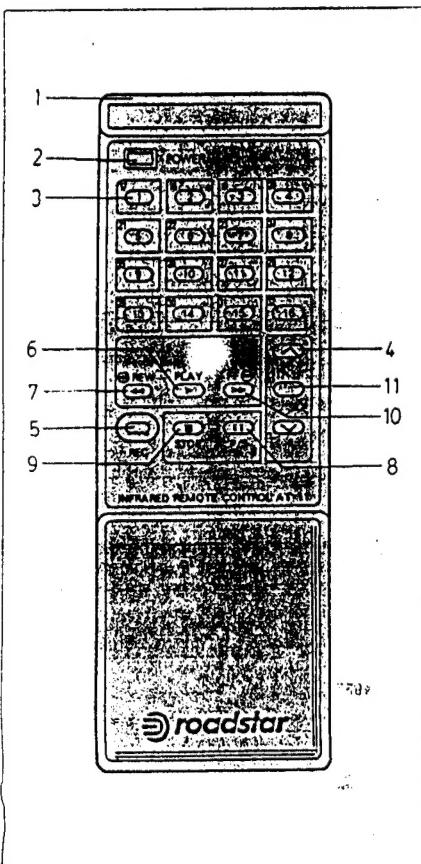


Fig. 4 REMOTE CONTROLLER

REMOTE CONTROLLER

1. **Signal Transmission Window**
Transmits signals from the remote control to the VCR.
2. **POWER Button**
Press to turn VCR power on and off.
3. **Direct Position Select Button**
Press the position number which a desirous channel is memorized.
4. **CHANNEL UP/DOWN Buttons**
Press to change the channels.
5. **REC (Record) Button**
Press to start recording.
6. **PLAY Button**
Press to play prerecorded material.
7. **REW (Rewind/Reverse Picture Search) Button**
Press to rewind the tape rapidly after either recording or playing. Also to make reverse scan program material in the PLAY mode.
8. **P/S (PAUSE/STILL) Button**
Press to stop the picture on screen during playback or for momentary pause during recording.
9. **STOP Button**
Press to stop recording or playing, etc.
10. **FF (Fast Forward/Forward Picture Search) Button**
Press to move the tape forward rapidly. Press to make forward scan the program material in the PLAY mode.
11. **Second Channel Select Button**
Press to select position number 17 to 32.

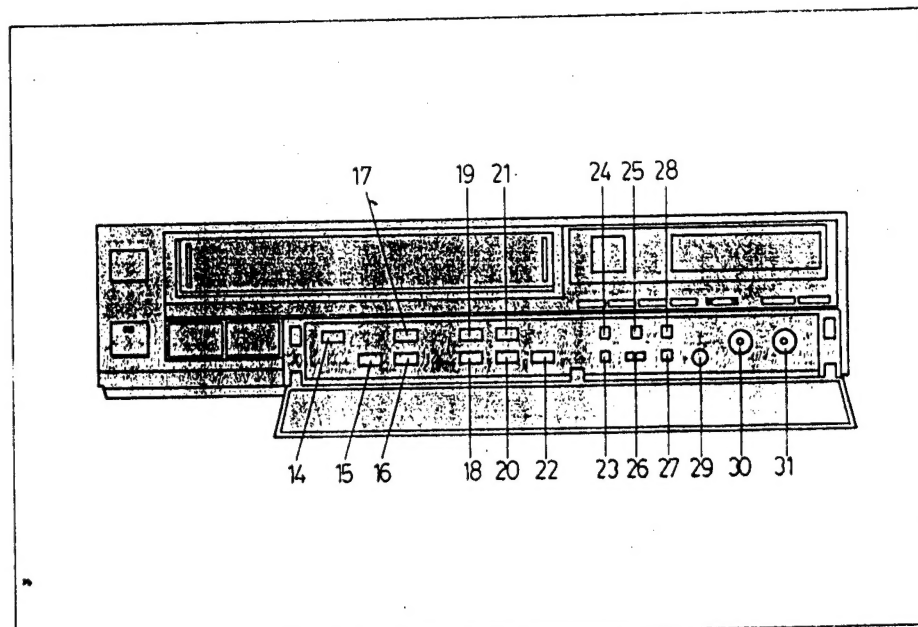


Fig. 2 Secondary Control Door opened

12. **Multifunction Display**
This Display is used as an indicator for: timer programming (program number; 1-4, start time; ON, end time; OFF, 2nd week; NEXT), present time of day, tape counter, timer recording (TIMER: red), memory stop (MEM), tape-in (T), channel, Operating Mode (record, REC: red, play, P, pause/still; S, tape movement (6 dots); - - - - -).
13. **REMOTE SENSOR**
This point receives signals from Remote Hand Unit.
14. **REC (Record) Button**
Press the Record button to start recording. "REC" is indicated in the Multifunction Display with red color.
15. **REW (Rewind/Reverse Picture Search) Button**
Press from stop position to rewind the tape after either recording or playback.

16. **FF (Fast Forward/Forward Picture Search) Button**
Press from stop position for fast access to desired program material. When the picture reaches the point you are looking for, press the PLAY button to resume normal playback.
17. **P/S (Pause/Still) Button**
Press P/S button to stop the tape momentarily during either recording or playback. "P" is indicated in the Multifunction Display. This is useful to prevent recording of unwanted material or to freeze the picture on TV screen. And of course, it is useful to stop the tape during an interruption such as a phone call.
18. **STORE Button**
Push this button to store the TV channel.

REAR VIEW

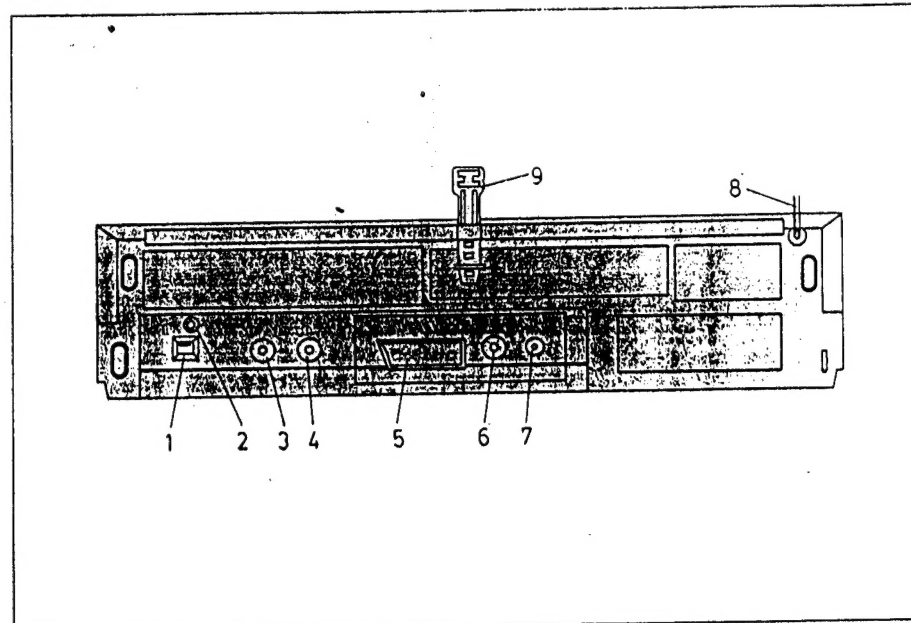


Fig. 3 REAR VIEW

1. **TEST ON/OFF SWITCH**
Turn this switch ON and check that the video channel of your TV set is correct. After setting, set this switch to OFF.
2. **RF TRIMMER**
In some areas the pre-set RF output of your video cassette recorder may clash with a TV broadcast. If this occurs rotate this control using a small screw-driver in a clockwise or counterclockwise direction. A new video channel has now been set and you will need to return your television video channel to the new RF output.
3. **ANTENNA IN**
Connect external antenna.
4. **RF OUT**
Connect to TV antenna (aerial) input.
5. **SCART JACK (EUROCONNECTOR)**
Connection of peripheral equipment (example: TV, VCR)
6. **VIDEO IN CONNECTOR**
Input jack for another VCR, portable video camera, or other video equipment.
7. **AUDIO IN CONNECTOR**
For connecting on audio cable from a component AUDIO system or an output signal of another VCR.
8. **MAIN LEAD**
9. **WIRE CLAMPER**
Use to tie a power cord when the VCR is moved.

TUNING TV PROGRAMMES

There are two possibilities for tuning television programmes to your SAMSUNG VCR AUTOMATICALLY or MANUALLY.

Automatic Tuning

1. Switch on the video recorder by pressing the POWER button.
2. Press PRESET button, then "CH--1" will appear in the display window.

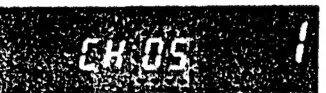


3. Press SEARCH button, then the display will change as the automatic search system scans the television channels available.

On reception of a TV channel with sufficient signal strength the automatic search will stop. (Example: CH 05 is available).



4. If the picture quality is poor, press MFT+ or MFT- button, then the channel number in the display will start to flash quickly. If the picture quality of the signal is good, press STORE button to open the tuner memory.



5. If the number 05 is the channel number you wish to store, simply press the STORE button and the TV channel 05 will be stored behind Programme 1, and Programme number will increase.



6. Repeat the same procedure until you have tune and stored 32 TV channel that wish to store in your area.
7. After all channel have been stored, you have to press the PRESET button.
8. Press AFT button for automatic fine tuning.

MANUAL TUNING

You may also tune the TV channel you can receive in your area by a direct input of the channel numbers. Please note that you can only use this tuning method if you know the correct channel numbers. If you are in any doubt, you should use the automatic tuning technique.

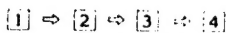


Fig. 14

3. Press DAY button to "We". If a day in the second week is selected, "NEXT" will appear.



Fig. 15

4. Press "TIME+" or "TIME-" button to "8:30".



Fig. 16

5. Press CH UP/DOWN buttons for the channel you wish to record. That channel number will be shown multifunction display.



Fig. 17

To set the STOP time:

6. Press P-CHECK button to set "OFF" time.



Fig. 18

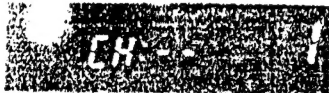
7. Press "TIME+" or "TIME-" button to "10:00".



Fig. 19

8. Press P-CHECK button to finish program setting.

1. Press PRESET button, then "CH--1" will appear in the display window.



2. To select the channel number you need, use the CHANNEL/PROGRAMME UP (A)/DOWN (V) button on the front of the VCR or remote control until the correct channel number is shown in the display.



3. Press STORE button to open the memory, then the programme number will increase automatically.



4. Repeat the same procedure until you have tuned and stored 32 TV stations that you wish to store in your area.
5. After all channel have been stored, you have to press the PRESET button.
6. Press AFT button for automatic fine tuning.

Setting of TV station is now complete.

Note

If you want to erase stored TV station in specified programme number, press the CLEAR button, then the channel number will flash one time. And if you want to know channel number that is stored behind programme number, press STORE button. These functions are only available in PRESET mode.

Selecting TV Programmes by remote control.

Press any of the button 1-16 to tune the TV channels you have programmed behind these numbers. If the number you want is higher than 16, first press button 2nd and then press the button 17-32.

Note

When you press programme number that TV station is not stored the programme number is not appear in the display.

HOW TO SET THE CLOCK FOR PRESENT TIME OF DAY

The built-in Clock gives the time of day in a 24 hour cycle. The multifunction display is also used for the Tape Counter, or setting the Timer to record programs when you are not at home. When the electrical cord is first plugged into a wall outlet, or when there is a power failure, "SU--:" appears on the display. The clock will work whether the VCR's Power button is on or off. To set the clock, open the front door and follow these steps.

EXAMPLE: PRESENT TIME OF DAY IS MONDAY, 10:15

1. When the VCR power on, the display will show as in the fig. 8.



Fig. 8

2. Press the T-ADJ button. "Su 0:00" will appear on the display and flash. (Fig. 9)



Fig. 9

3. Press the DAY button until you see "Mo" on display. Release. (Fig. 10)



Fig. 10

4. Press the "TIME+" button or "TIME-" button until you see "Mo 10:15" on display. Release. (Fig. 11)

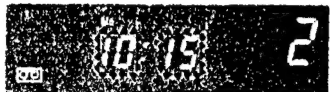


Fig. 11

5. Press the T-ADJ button to finish time setting. Then the colon only will flicker. (Fig. 12)

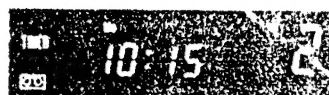


Fig. 12

UNATTENDED (TIMER) RECORDING WHILE YOU ARE AWAY

Automatic Timer recording makes it convenient for you to record a program while you are away, asleep or busy. The Timer can be preset two weeks in advance to record four of your favorite TV programs. You can also set the Timer to automatically record a program everyday for a week or two weeks at the same time over the full length of a cassette tape. If the tape runs out, the cassette will be ejected automatically. For unattended recording the Timer needs to know what day to make the recording, the time to start, the time to stop and the channel to be recorded.

To Prepare for Unattended Recording:

1. Turn on your VCR and TV set.
 2. Make sure that the Clock shows the Present time of day.
 3. Select TV input with TV/AUX/AV Select Switch.
 4. Insert video cassette with a safety tab intact.
- You are now ready to set the timer program.

Unattended Recording One Time Only:

EXAMPLE: The present time of day is Monday, 11:30 and you want to set the Timer to record a TV program this Wednesday, to start at 8:30 and to stop at 10:00 on Channel 8.

To set the START time:

1. Press the P-CHECK button to set "ON" time.



Fig. 13

2. Press P-CHECK button. Program number (1-4) can be selected by each push of this button.

3. Press P-CHECK button again, then the recording End time of first [1] program is shown on display.
4. Press P-CHECK button again, then the recording Start time of second [2] program is shown on display. And follow the same steps to check other programs.

NOTE: You can review the next program immediately by pressing the P-CHECK button.

It is possible to check the Timer programming when a recording is taking place.

To Clear the Program:

1. Press POWER button ON.
2. Press P-CHECK button. When the recording time is shown on display, press the RESET/CLEAR button to cancel the program.

Program Memory Back-Up:

Operates when there has been a power failure of up to approximately 20 seconds. If power has been off for more than 20 seconds, it will be necessary to set the time of day and to input all new programming.

One Touch Recording (OTR) Procedure

The One Touch Recording (OTR) button allows you to start impromptu recordings at any time. Just select the channel and press the OTR button to desired amount of recording time with automatic power off at the preselected time. (minutes increased by each push)

To use One Touch Recording, first set up your VCR unit for basic recording:

1. Turn on TV and select a desirous channel.
2. Select TV input with TV/AUX/AV SELECT SWITCH.
3. Insert a cassette tape with record safety tab intact, then turn POWER on automatically.

And, press "OTR" button to start recording and to select the recording length.

Then the VCR will start to record immediately and turn off at the preselected time. The "TIMER" and "REC" indicator will appear on the multifunction display at the same time when you press the OTR button.

The OTR set time will change by pressing OTR button only as shown in the diagram below.

Number of pressing OTR button	The End of OTR time on display
1	Present time + 30 min.
2	Present time + 60 min.
3	Present time + 90 min.
4	Present time + 120 min.
.	.
K	Present time + 30 · K min. (until maximum tape length)

After the OTR time is set, the display shows the recording end time for 5 seconds. And the display will return to the present time and show the present time during the One Touch Recording.

To check the OTR time:

While operating OTR, if you want to check the time remaining, press "TIME+" or "TIME-" button. Then the End time of OTR will appear on display for 5 seconds only. And after that, the display will return to the present time. In this case, be careful that the end time shows not the original end time, but the time increased or decreased about 1 minute.

To change the OTR time:

The recording length can be changed during OTR by pressing "OTR", "TIME+", or "TIME-" button. The "OTR" button can increase the length by 30 minutes, and "TIME+" or "TIME-" button can increase or decrease the length by 1 minute.

To cancel the One Touch Recording:

If you wish to cancel the One Touch Recording, press the POWER button to OFF. Then the "TIMER" and "REC" indicator will disappear on the multifunction display.

Note on One Touch Recording:

If the present time of day is not preset, OTR function does not operate.

If you use the cassette with the record safety tab removed, OTR will not operate because the VCR will eject the cassette when you press the OTR button.

The Timer Recording cannot begin recording if the VCR is already recording with OTR, and vice versa. But after the OTR, it will then start Timer Recording immediately if the end time of OTR is set before the one of Timer recording. At the end of recording, the VCR will automatically turn off and the present time of day will be displayed. Remember the maximum recording time without changing a cassette varies with the type of cassette tape you use.

Unattended Recording Daily:

If you wish to record a daily program (from 8:30 to 10:00, everyday), Press DAY button until all the Day-indicators (Su, Mo, Tu, We, Th, Fr, Sa) light. Then follow the steps 4 through 9. VCR will record everyday at the same set-time for the set length of time until cassette is finished.



Fig. 22

Note on Unattended Recording

During program setting, there is no priority for steps 1-7. Set up TIMER information in the order that best suits your needs. If you wish to stop the Timer recording without cancelling the Timer setting, Press POWER button ON. To continue the Timer recording again, press TIMER button ON. you do not need to press the REC button for Timer recording. Before pressing the TIMER button ON, you should check the cassette to prevent the unwanted recording. If the Timer recording is set and power is OFF, VCR will be in stand-by mode to record until the start time and record for the reserved time. Be sure that the safety tab is intact on the cassette. If the tab is missing, the tape will be automatically ejected when the TIMER button is pressed for Timer recording. The TV does not have to be turned on When Timer recordings are taking place.

To Check Programming:

1. Be sure that POWER button is on.
2. Press P-CHECK button, then the recording Start time of first [1] program is shown on display.

1-4. CLEANING AND LUBRICATION

CLEANING TAPE MECHANISM

Periodic cleaning is necessary to insure continued excellent performance of the tape mechanism. To clean the following parts use "Kim Wipes" and solvent.

- 1. Capstan shaft.
- 2. All idler wheels.
- 3. All tape guide posts.
- 4. Supply and take-up reels.
- 5. Impedance roller.
- 6. Pinch roller.
- 7. Idler belt.
- 8. Capstan belt.
- 9. Capstan motor pulley.
- 10. Loading belt.
- 11. Loading motor pulley.
- 12. Loading pulley.

To clean video heads, full erase head, and audio/control (A/C) head use only head cleaning kit and solvent.

Note: When cleaning video heads move the cleaning stick in the direction of head rotation. Wiping in a vertical motion may damage the heads.

LUBRICATION TAPE MECHANISM

The tape transport mechanism is properly lubricated at the factory. In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on use and environmental conditions, periodic lubrication may be required. When relubricating, remove old lubricant first, then sparingly apply new lubricant. (Excessive lubricant may be transferred to other assemblies causing multifunction).

Use grease on the following parts after 1,000 hours operation. (See exploded view for location.)

- 1. Between base pole (L) assembly and mecha chassis assembly.
- 2. Between level review cam and mecha chassis assembly.
- 3. Between base pole (R) assembly and mecha chassis assembly.
- 4. Between plate main slide and mecha chassis assembly.
- 5. Between I.B slide assembly and plate main slide.
- 6. Between gear loading (L) and gear loading (R).
- 7. Between main gear, eject gear and worm.
- 8. A part of flywheel shaft contacted to the Bracket Capstan Flywheel.

Oil may be required for the following parts every 1,000 hours operation. (See exploded view for location.)

- 1. Supply reel and take-up reel shafts.
- 2. Links of both loading arms.
- 3. Between shaft of tension arm and chassis.
- 4. Pressure roller arm.
- 5. Shaft of load pulley.

Other parts which are not listed above do not require lubrication, except if a part is replaced. Use appropriate oil or grease as indicated on exploded view.

1-5. ABBREVIATIONS

2X	4.43 MHz	Double Color Sub Carrier	D	D.F.G	Drum Frequency Generator
				D.M.M	Delayed Monostable Multivibrator
				D.O	Drop Out
				D.O.C	Drop Out Compensator
				D.P.G	Drum Pulse Generator
				D/A	Digital to Analog
				D/C	Dark/Clip
				D/W	Dark/White
				DAFC	Drum Auto Frequency Control
				DAPC	Drum Auto Phase Control
				DE EMPH	De-Emphasis
				DEM	Demodulator
				DET	Detector
				DEV	Deviation
				DL	Delay Line
				DLIM	Double Limiter
				DLYD	Delayed
				DM	Drum Motor
				DN	Down
A	ACC	Automatic Color Carrier	E	E-E	Electronic-to-Electronic
	ACK	Automatic Color Killer		EMPH	Emphasis
	ADD	Adder		ENV	Envelope
	AFC	Automatic Frequency Control		EQ	Equalizer
	AFT	Automatic Fine Tuning		EXT	External
	AGC	Automatic Gain Control	F	F.V	Frequency-to-Voltage Converter
	AL	After Loading		F.FWD	Fast Forward
	ALC	Automatic Level Control		FB	Feed Back
	AMP	Amplifier		FH	Horizontal Frequency
	APC	Automatic Phase Control		FG	Frequency Generator
	AUD	Audio		FM	Frequency Modulator
	AUX	Auxiliary		FSC	Sub Carrier Frequency
				FWD	Forward
B	BATT	Battery	G	GEN	Generator
	BE	Burst Emphasis		GND	Ground
	BD	Burst De-Emphasis	H	HPF	High Pass Filter
	BG	Burst Gate		HSS	Horizontal Sync Separator
	BH	Power Supply for Selecting VHF High Band	I	I/O	Input/Output
	BL	Power Supply for Selecting VHF Low Band		IF	Intermediate Frequency
	BM	Power Supply for Selecting VHF Mid Band		INJ	Injector
	BPF	Band Pass Filter		IR	Infrared
C	C.FG	Capstan Frequency Generator	L	L/C	Luminance/Chrominance
	C.FREE RUN	Capstan Free Run		LED	Light Emitting Diode
	C.MEMORY	Counter Memory		LIM	Limiter
	C.SYNC	Composite Sync		LPI	Low Pass Filter
	C.RESET	Counter Reset		LS	Latch Strobe
	C.REVERSE	Counter Reverse		LUMA	Luminance
	C/R	Condenser/Resistor	M	M.C	Main Converter
	CAFC	Capstan Auto Frequency Control		MIX	Mixer
	CAPC	Capstan Auto Phase Control		MM	Monostable Multivibrator
	CATV	Cable TV		MFT	Manual Fine Tuning
	CAR	Carrier		MOD	Modulator
	CB	Carrier Balance			
	CAP	Capstan			
	CCD	Charge Coupled Devices			
	CH	Channel			
	CHAR.	Character			
	CHROMA	Chrominance			
	CM	Capstan Motor			
	CNT	Counter			
	COM	Common			
	COMP.	Comparator			
	COMPE	Compensator			
	CON	Control			
	CONV	Converter			
	CST	Cassette			
	C-EMP	Current Emphasis			
	C-ERR	Capstan Error			

1-13

2. DISASSEMBLY

2-1. INSTRUMENT DISASSEMBLY

2-1-1. Top Cabinet Removal (Fig. 1)

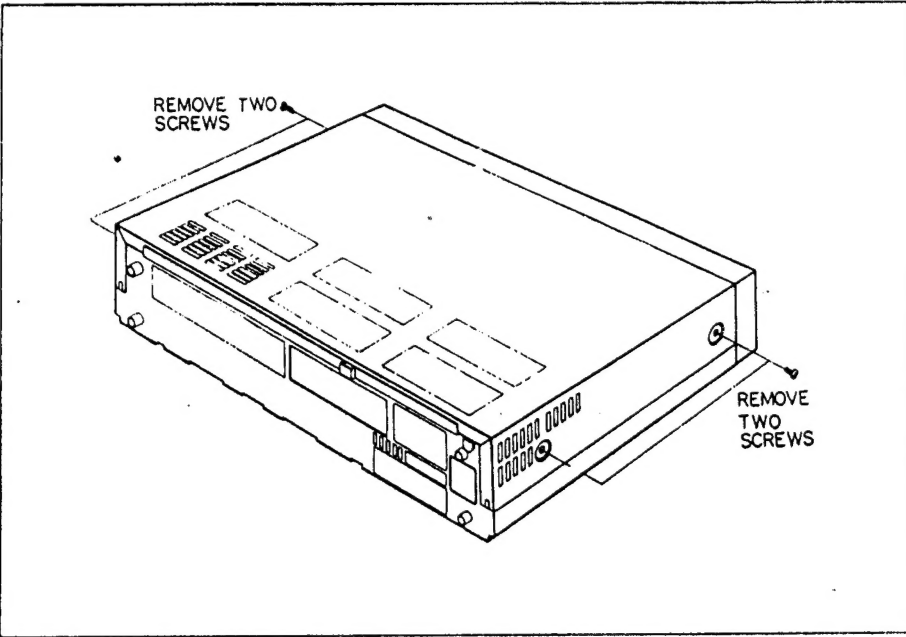


Fig. 1 Top Cabinet Removal

- 1. Remove four (4) screws located at the sides of the top cabinet.
- 2. Carefully lift the back of the top cabinet and slide it to the rear to remove.

2-1-2. Bottom Cover Removal (Fig. 2)

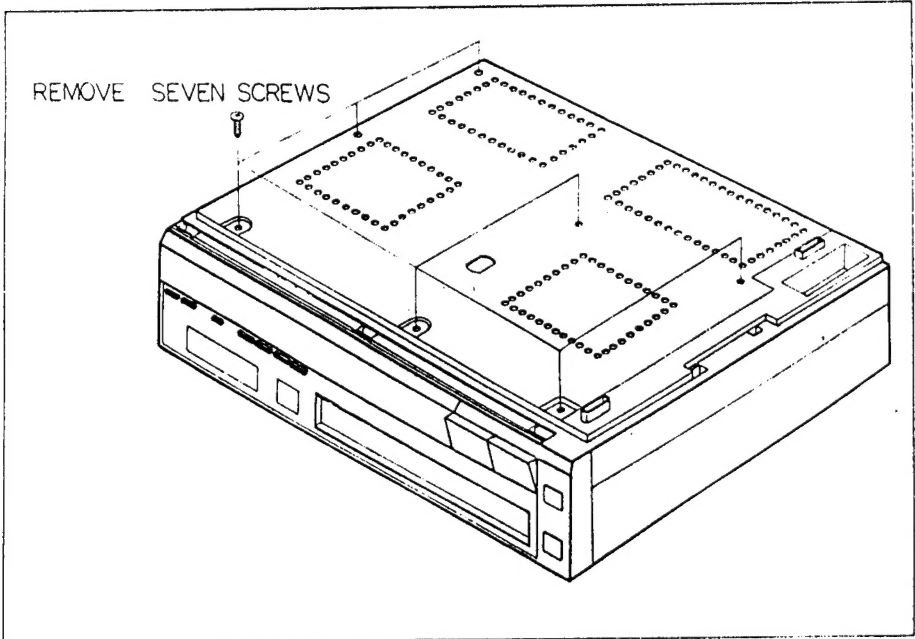


Fig. 2 Bottom Cover Removal

- 1. Remove seven (7) screws holding the bottom cover.

2-1-3. Front Panel Removal (Fig. 3)

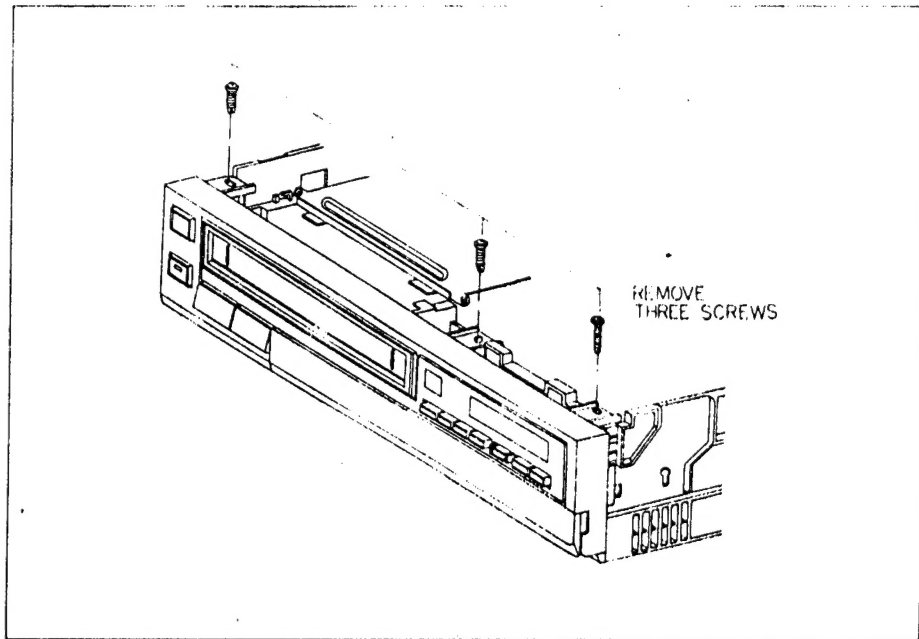


Fig. 3 Front Panel Removal

- 1. Remove the top cabinet and the bottom cover. (See Figs. 1, 2)
- 2. Remove three (3) screws from the top of the front panel.
- 3. Tilt the front panel forward to remove.

2-1-4. Function Switch Circuit Board Removal (Fig. 4)

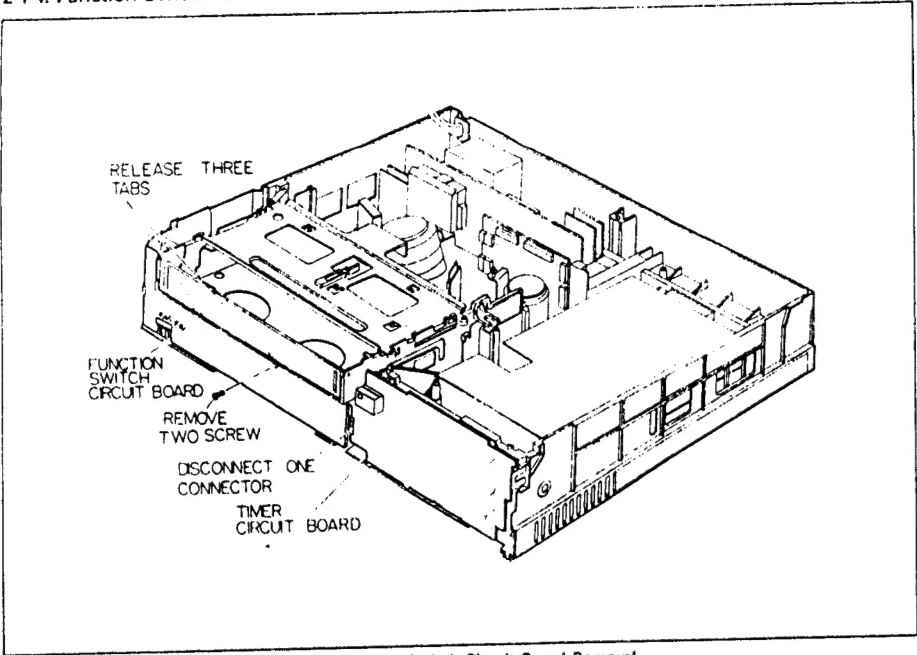


Fig. 4 Function Switch Circuit Board Removal

1. Follow the procedure for removing the Panels. (See Figs. 1 to 3)
2. Remove two (2) screws holding the function switch circuit board.
3. Release three (3) tab on the circuit board.
4. Disconnect one (1) connector (CN701) on this board.

2-4

2-1-6. Main B Circuit Board Removal (Fig. 6)

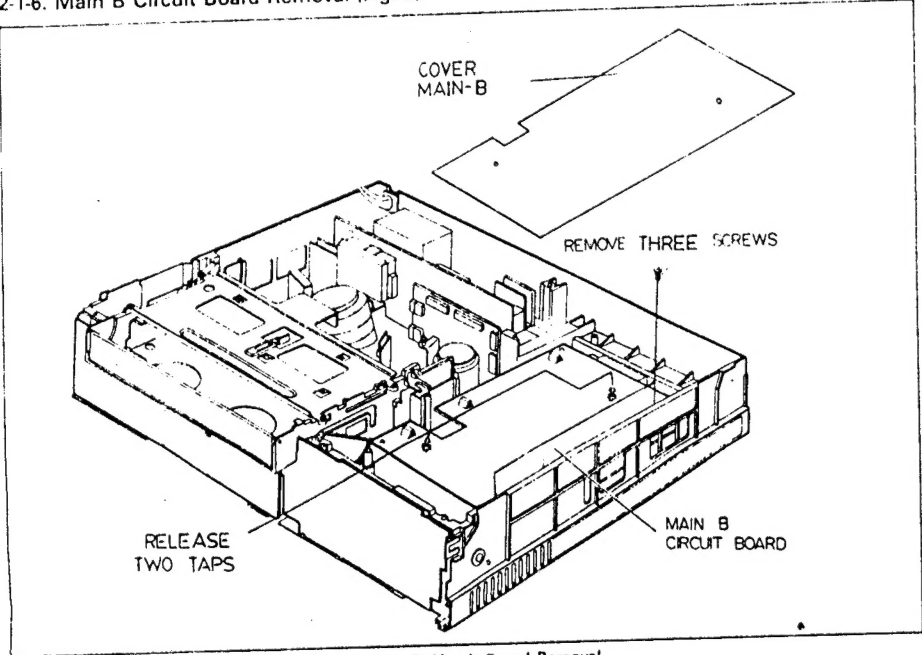


Fig. 6 Main B Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Release two (2) tabs cover-Main B from the Main B Board.
3. Disconnect on (4) connector (CN301 CN302 CN304 CN305) on the Main-B board
4. Remove four (4) screws on the Main B PC Board and the hinge from the frame.
5. Pull out the board in the direction of the arrow.

2-6

2-1-8. Regulator Circuit Board Removal (Fig. 8)

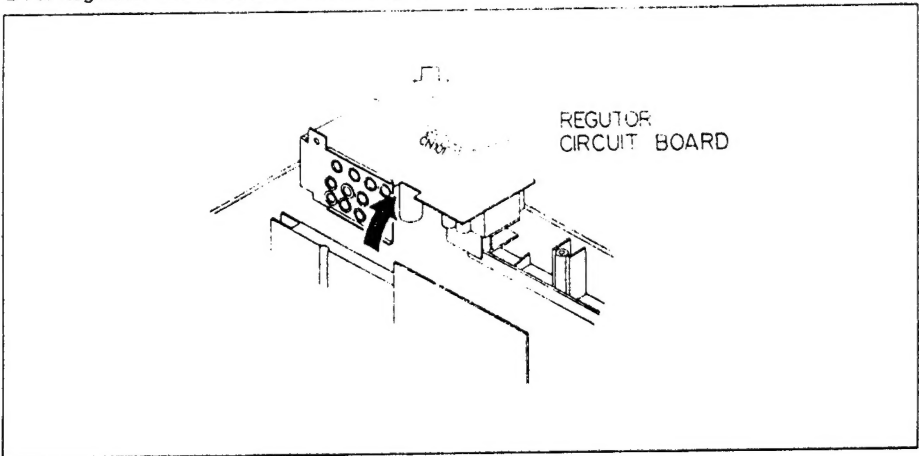


Fig. 8 Regulator Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove three (3) screws from the frame.
3. Disconnect one (1) a connector (CN101), on the regulator circuit board.
4. Remove the IC from the Lower Drum.
5. Taking care of the cable assemblies, lift the regulator circuit board upward to release.

2-1-9. PWB-Deck Joint (G-7) Removal (Fig. 9)

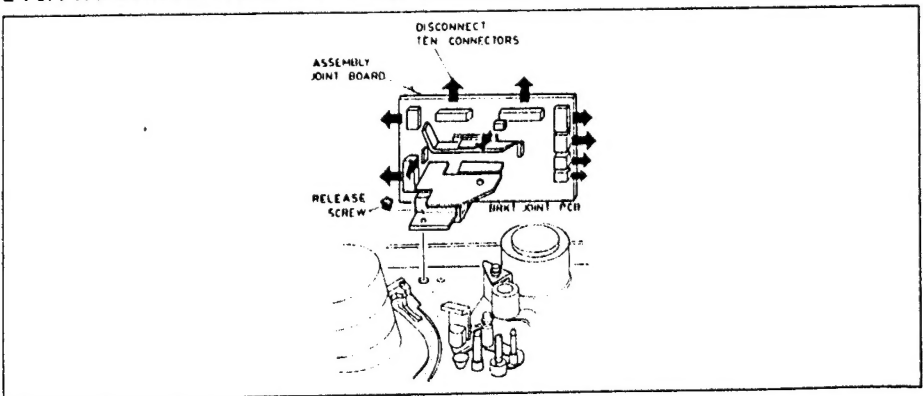


Fig. 9 Pwb-Deck Joint (G-7) Removal

1. Removal the top panel. (See Fig. 1)
2. Disconnect ten (10) connectors (Fig. 9)
3. Remove the screw holding Pwb-deck joint (G-7).

2-8

2-1-5. Timer/Input Key Circuit Board Removal (Fig. 5)

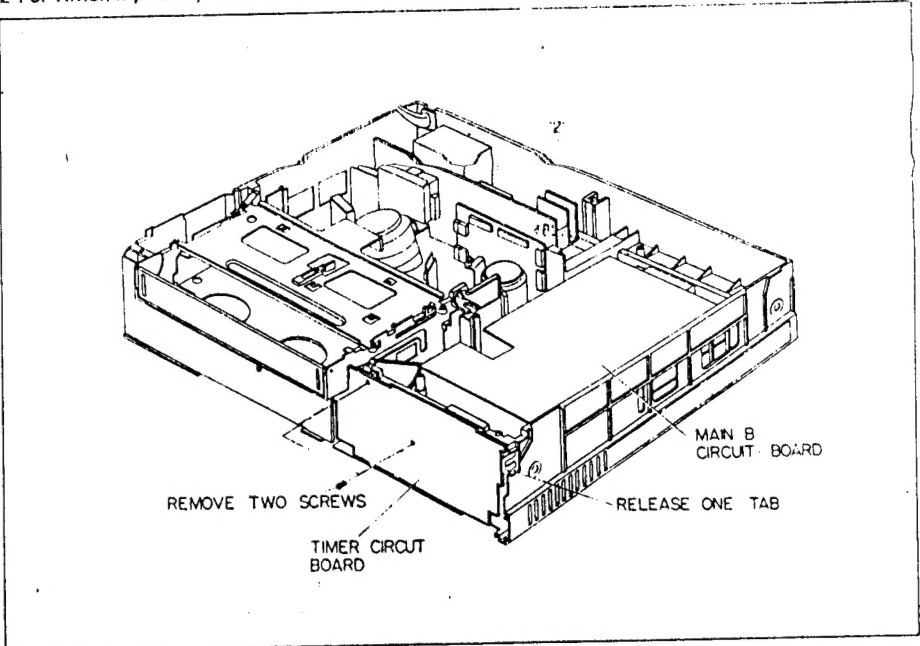


Fig. 5 Timer/Input Key Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove two (2) screws holding the timer/input key circuit board.
3. Disconnect two (2) connectors (CN703), (CN203) on the main circuit board, and release one (1) tab on the timer/input key.
3. Taking care of the cable assemblies, pull the circuit board forward to release.

Note: Before removal of the timer/input key circuit board, make sure that the function switch circuit board.

2-5

2-1-7. Main A Circuit Board Removal (Fig. 7)

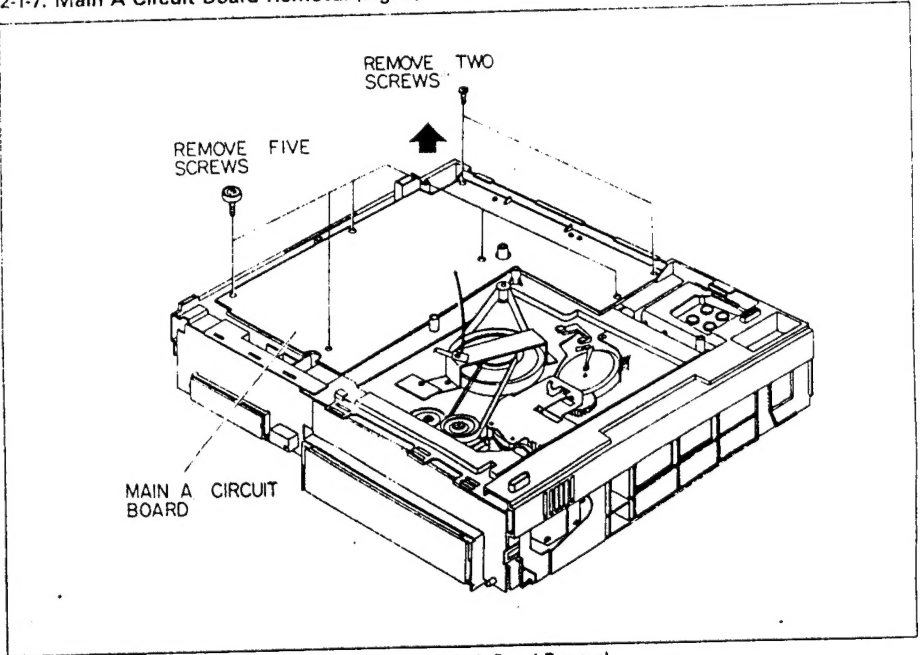


Fig. 7 Main-A Circuit Board Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Disconnect eight (8) connectors between the main circuit board and the other circuit boards.
3. Remove seven (7) screws on the main board.
4. Lift up the assembly in the direction of the arrow.

2-7

2-2. MECHANICAL DISASSEMBLY

Tape Transport Mechanism Identification.

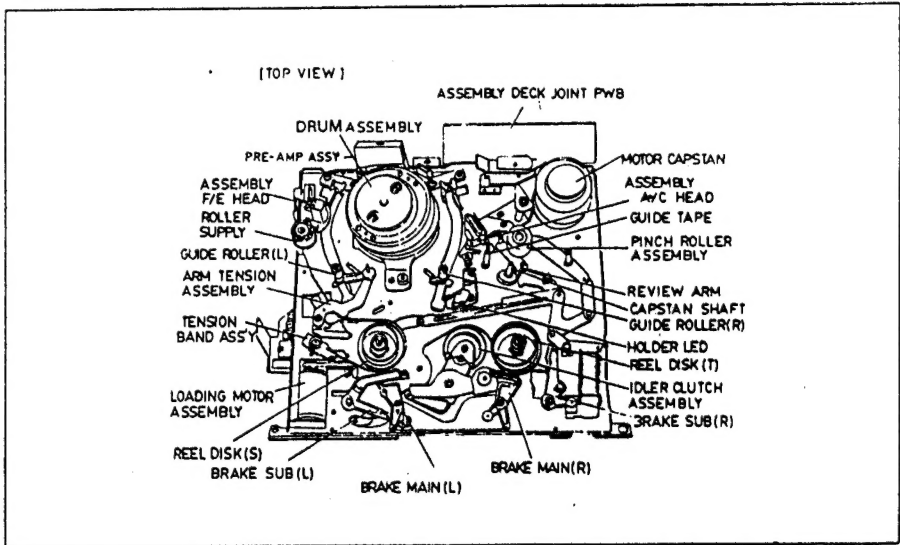


Fig. 10 Tape Transport Mechanism-Top View

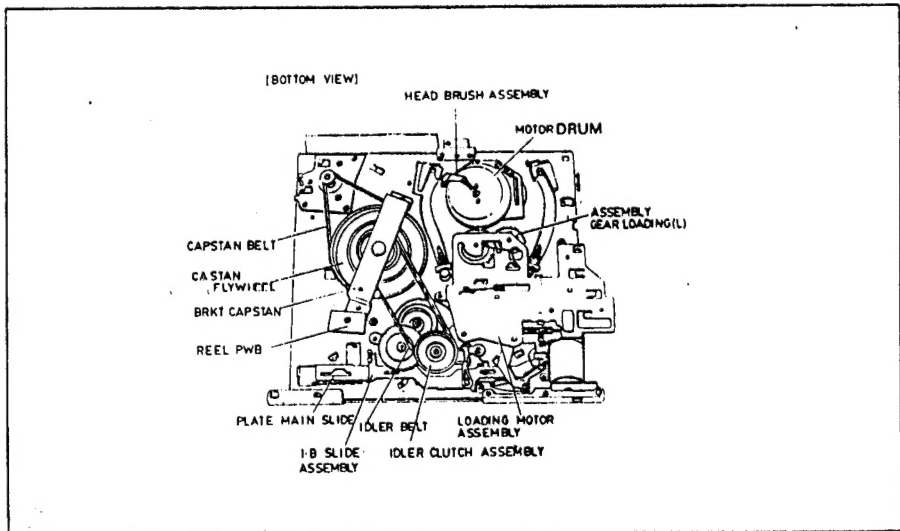


Fig. 11 Tape Transport Mechanism-Bottom View

2-9

2-2-1. Housing Assembly Removal (Fig. 12)

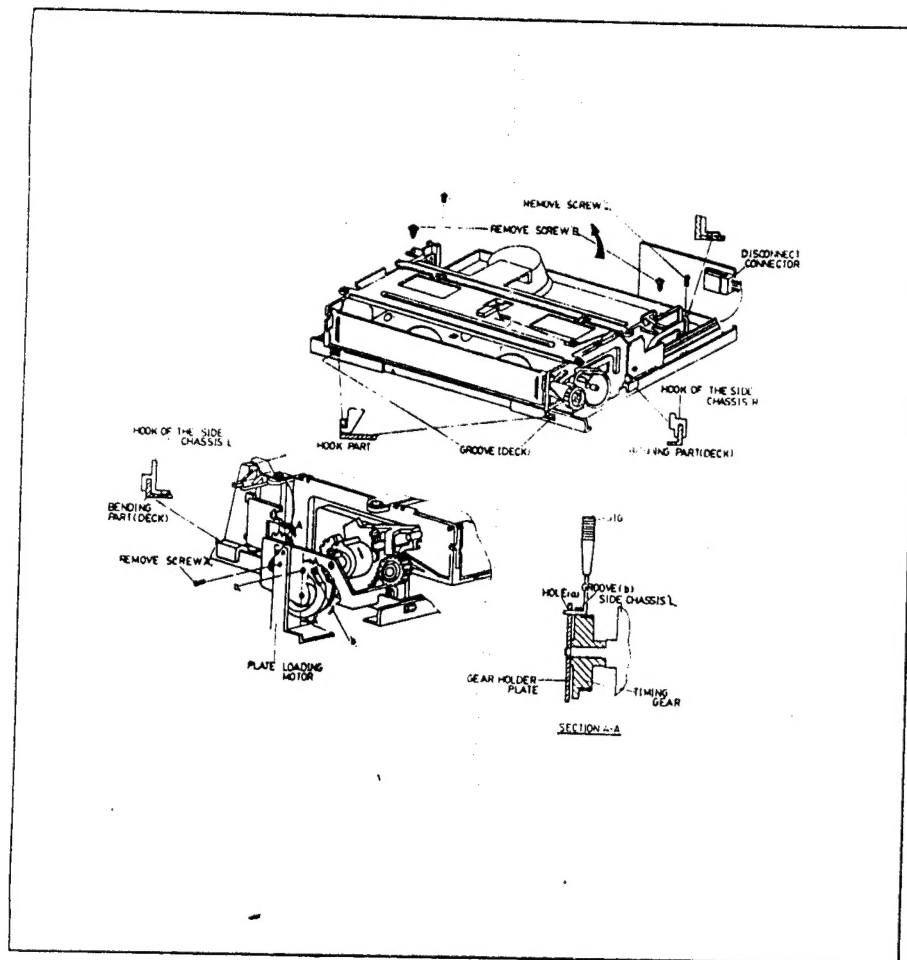


Fig. 12 Housing Assembly Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Disconnect connector from pwb-deck joint.
3. Remove the screw. (A)-Joint screw of housing and plate loading motor.
4. Remove the two screw. (B)-Joint screw of housing and frame.
5. Remove the two screw. (C)-Joint screw of housing and deck.
6. Lift the rear of the housing assembly toward arrow mark.

2-10

Note: •When reinstalling housing assembly to the deck, first insert the hook part of the housing to the groove of the deck. Second fit the hook of the side chassis (R) (L) to the bending part of the deck.
•Before jointing screws (C), fix assembling point of the timing gear and arm gear rotating the side bevel gear to the direction of arrow A
a) Assembling point is the point that the hole of the gear holder plate corresponds to the groove of the timing gear like the section A-A.
b) If the assembling point is not correct. It does not return to the initial position completely.

2-2-2. Housing Assembly Identification (Fig. 13)

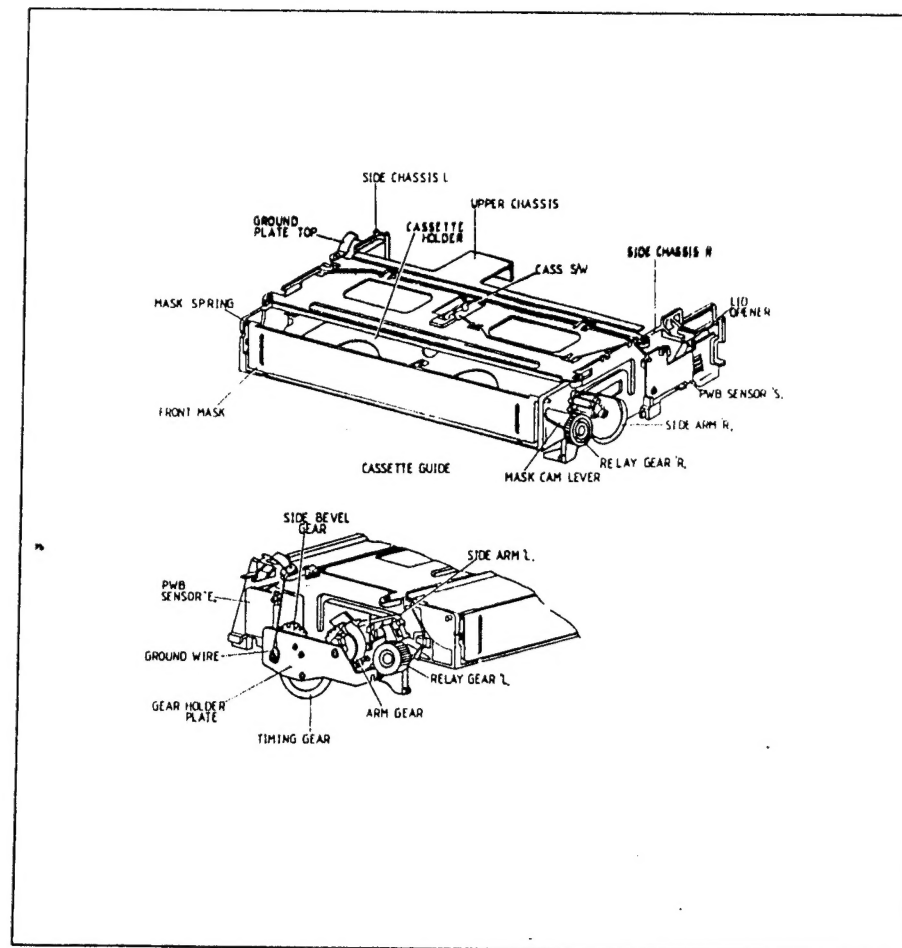


Fig. 13 Housing Assembly Identification

Note: _____

Note: _____

2-11

2-2-3. Housing Assembly Disassembly (Fig. 14 to 21)

1. Remove front mask. (Fig. 14)

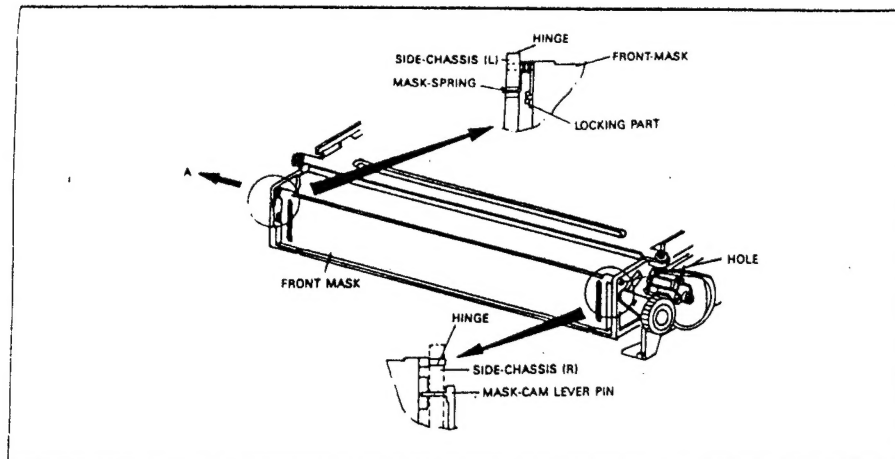


Fig. 14 Front Mask Removal

• Pulling front mask to the direction of arrow A, disintegrate a reinstalled front mask hinge part in the hole of the side-chassis (R) and disintegrate a reinstalled hinge part in the hole of the side-chassis (L) to the reverse direction.

NOTE:

• One end of the mask spring must be reinstalled at the locking part of the front mask and the other end must be reinstalled the hook part of the side chassis (L).

• Upon reinstallation of front mask slide part of right hand must be reinstalled in front of the mask cam lever pin. (Fig. 14)

2. Remove REC S/W (Fig. 15)

Disintegrate REC S/W attaching to the guide cassette.

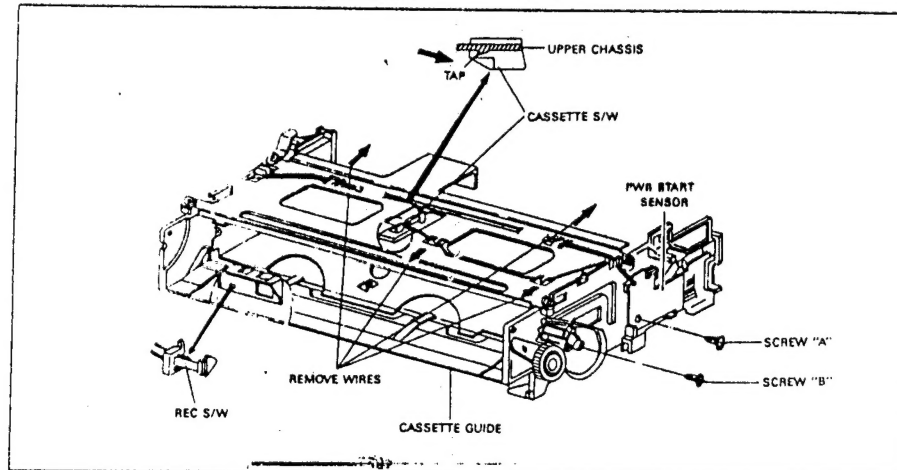


Fig. 15 REC S/W / Cassette S/W / Pwb Start Sensor / Side Arm (R) Removal

3. Pwb end sensor remove (Fig. 16)

• After removing the screw at the side chassis (L), disintegrate PWB end sensor.

Note: Pay attention to the TR and Photo TR attached to the Pwb end sensor.

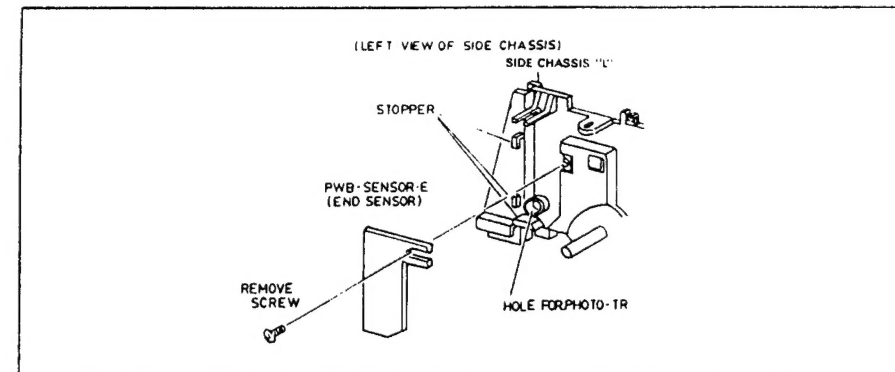


Fig. 16 Pwb End Sensor Removal

4. Release the tab of the cassette S/W and remove the cassette S/W. (Fig. 15)

5. Pwb Start sensor removal (Fig. 15)

• After removing the screw (A) at the side chassis (R), disintegrate PWB start sensor.

Note: Pay attention to the TR and Photo TR attached to the Pwb start sensor.

6. Remove the wires. (Fig. 15)

Note: Each wire is connected to Rec S/W, Pwb end sensor, cassette S/W and Pwb start sensor.

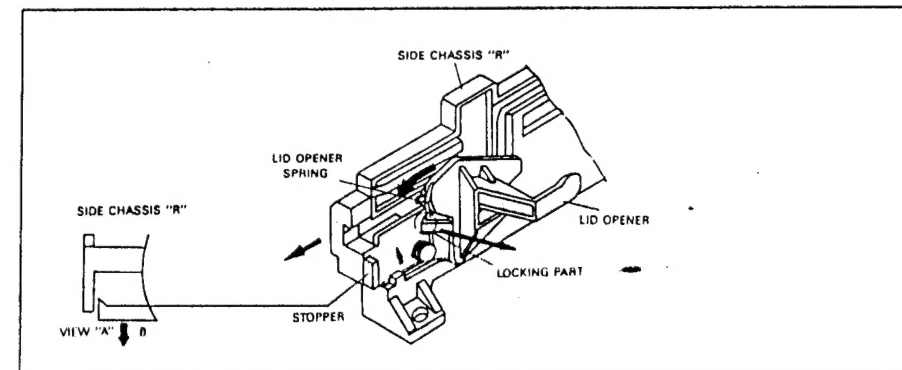


Fig. 17 Lid Opener Removal

7. Lid opener removal (Fig. 17)

• Remove the lid opener spring from the locking part of the lid opener.

• Pull the lid opener in the direction of A, and release the locking part pulling it in the direction of B, be fore touching the stopper of the side chassis. (Refer to view A)

8. After removing the screw (B), remove the side arm (R) (Fig. 15)

Note: Arm tension spring is set up to the side arm (R).

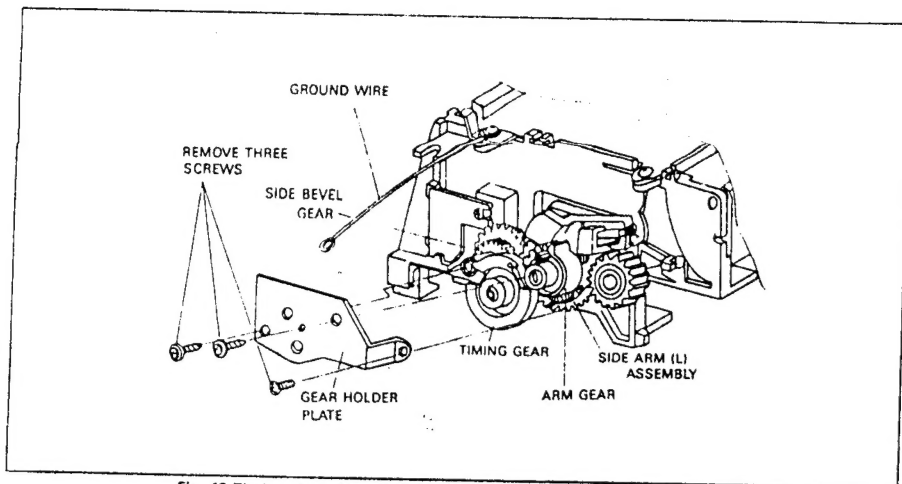


Fig. 18 Timing Gear/Side Arm (L) Assembly/Side Bevel Gear Removal

9. Remove the three screws of the gear holder plate holding each gear. (Fig. 18)
(Remove the ground wire at the same time)
10. Remove the timing gear. (Fig. 18)
11. Remove the side arm (L) assembly. (Fig. 18)
12. Remove the side bevel gear. (Fig. 18)

Notes: *Side arm (R) reinstalling the side arm (L) assembly.

Fix at the reinstalling point of relay gear (R) and (L), and at this moment cassette holder shaft (R) (L) must be inserted in the groove of the side arm (R) (L) (Fig. 19)

*When assembling the timing gear, first tooth of the arm gear (C) must be fitted between the full tooth (A) and the half tooth (B) of the timing gear like the "A" part of the Fig. 19.

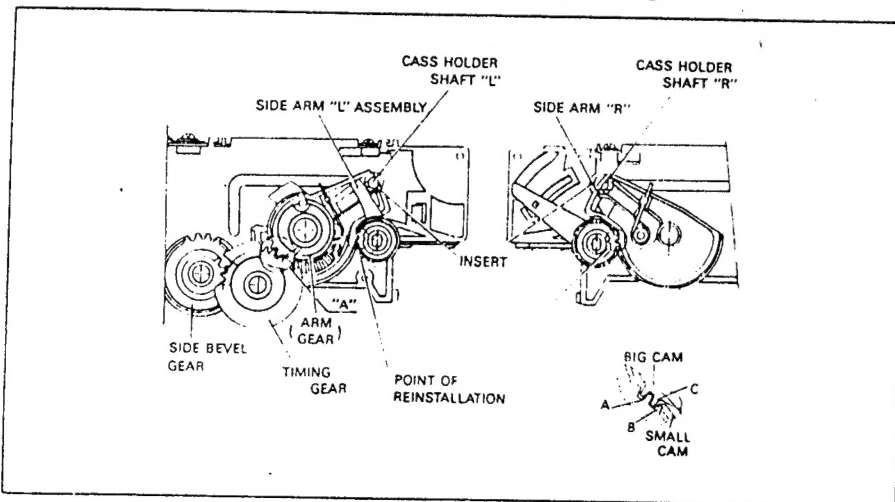


Fig. 19 Side Arm (R) and (L) Reinstallation

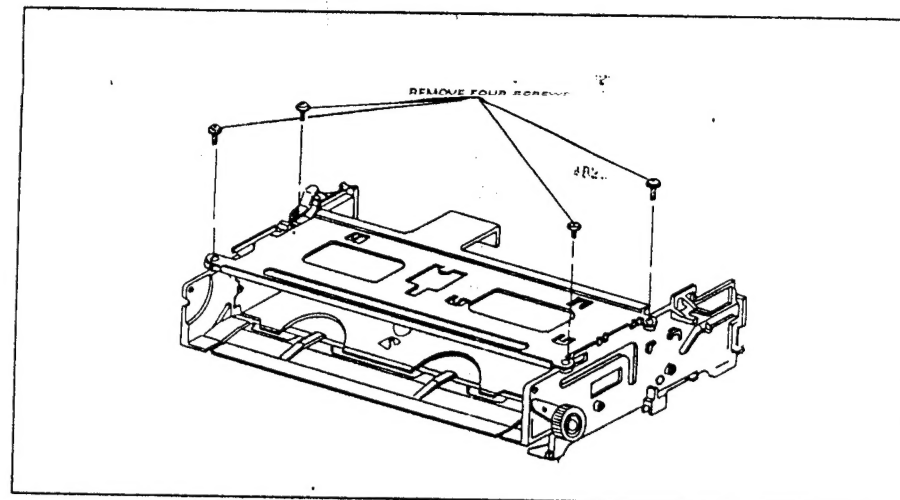


Fig. 20 Upper Chassis Removal

13. After removing four screws, pull the upper chassis upward to remove. (Fig. 20)

14. Side Arm (L) Assembly Remove. (Fig. 21)
 - 1) Release the eject spring.
 - 2) Remove the arm gear.
 - 3) Release the arm tension spring.

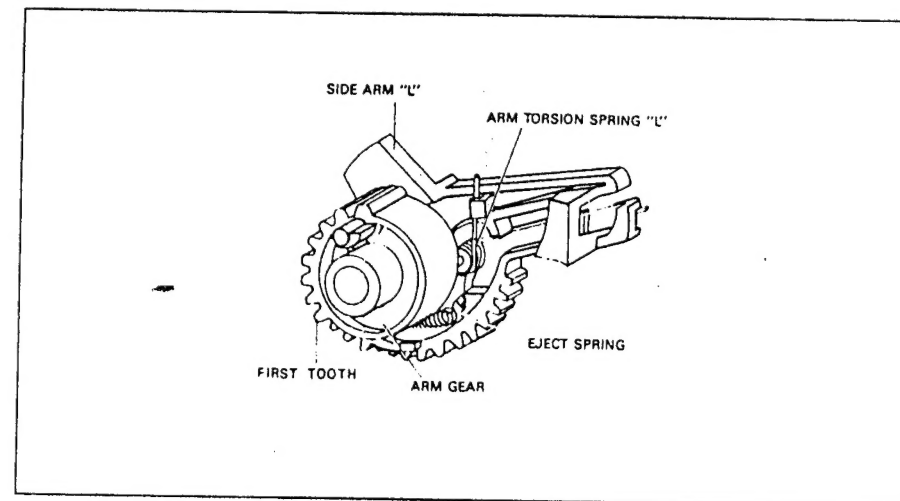


Fig. 21 Side Arm (L) Assembly Removal

2-2-4. Mechanical Chassis Assembly Removal (Fig. 22)

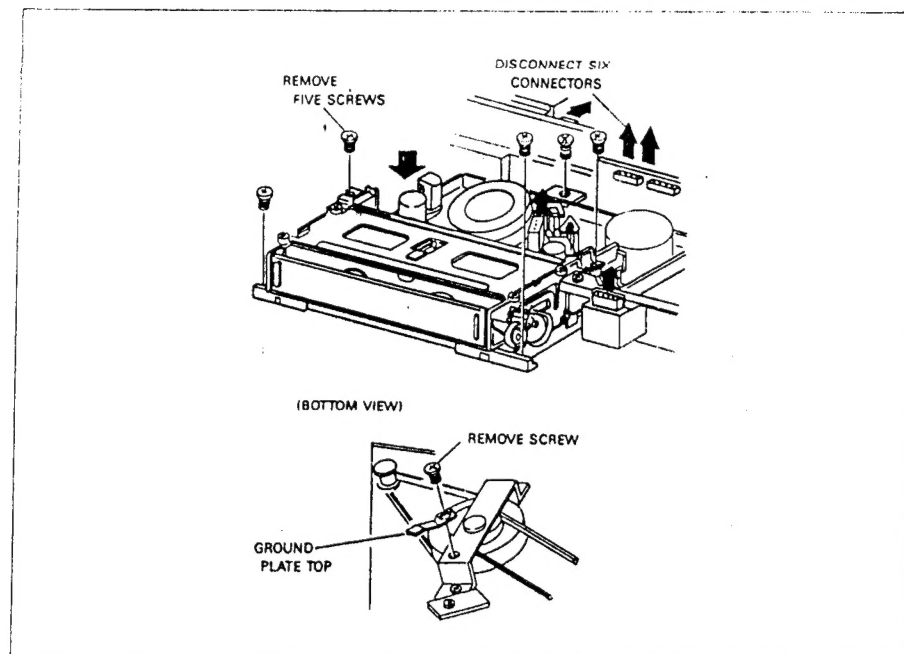


Fig. 22 Mechanical Chassis Assembly Removal

1. Remove the Panels (See Figs. 1 to 3)
2. Remove the screw. (Bottom View)
3. Disconnect six connectors.
4. Remove five screws and pull the mecha chassis assembly upward to remove.

2-2-5. Video Head (Upper Drum) Removal and Drum Motor Assembly Removal. (Fig. 23)

Note: Take extreme care when removing the upper drum. Do not touch the video head tips (located in the upper drum) during servicing.

Follow the procedure for removing

1. Remove the top cabinet (See Fig. 1)
2. Remove the bottom cover (See Fig. 2)
3. Remove two (A) screws holding the cover of upper drum.
4. Remove four wires soldered to PWB-Upper drum P-3.

Note: Upon reinstallation, connect four wire colors to wires of the same color which are soldered PWB-Upper drum P-3.

5. Remove two (B) screws on the upper drum.
6. Lift up the upper drum in the direction of the arrow.
7. Remove two (C) screws holding the drum motor.
8. Disconnect connector from the drum motor.
9. Remove three screws (D) holding the drum motor.

When it is necessary to remove lower drum, remove three screws (E) and lift up the lower drum assembly in the direction of the arrow.

Note: Upon reinstallation, alternately tighten two (2) upper drum holding screws and perform the following adjustments.
Tracking Preset Adjustment.
A/C Head Horizontal Position Adjustment.

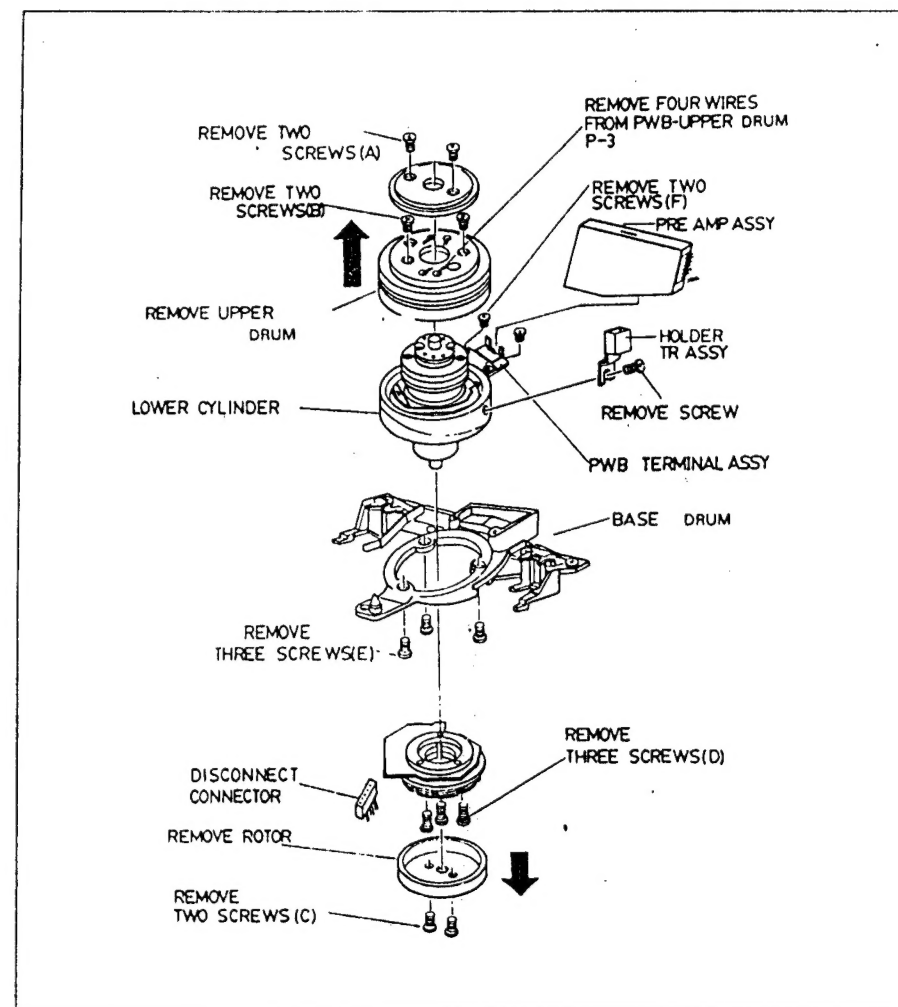


Fig. 23 Video Head Removal and Drum Motor Assembly Removal.

2-2-6. Full Erase (FE) Head/Supply Roller Removal (Fig. 24)

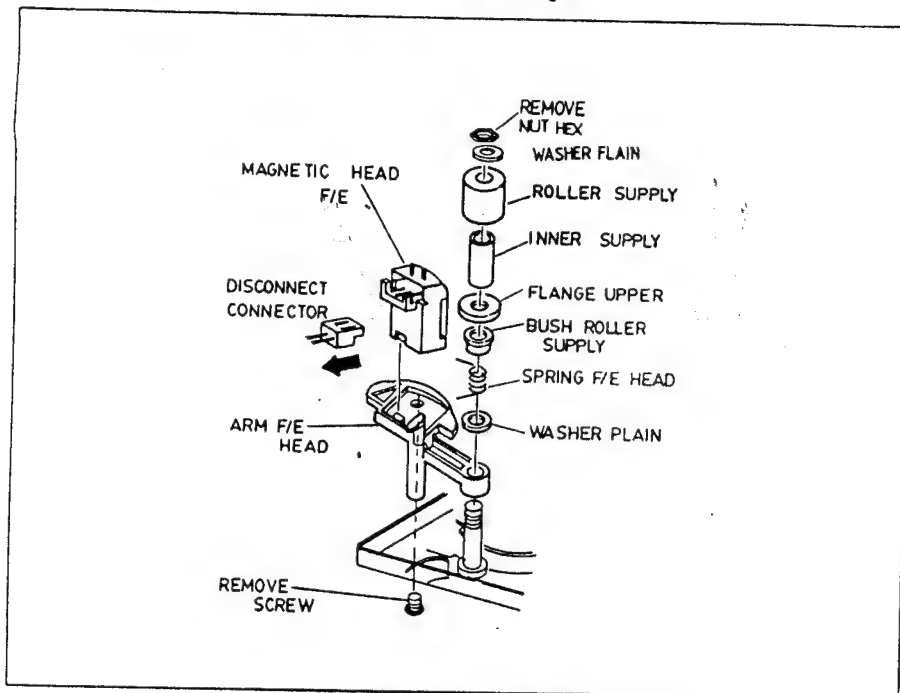


Fig. 24 Full Erase (FE) Head/Supply Roller Removal

1. Remove the top cabinet (See Fig. 1)
2. Disconnect connector from the F/E Head.
3. Remove the nut at the top of the supply roller and remove the washer plain, supply roller, inner supply, flange upper, bush roller supply.
4. Remove the spring F/E head arm, washer plain.
5. Pull the arm F/E head upward to remove.
6. Remove the screw holding the F/E head at the back of the base.
7. After replacing or reinstalling the FE head, clean each tape contact surface of the F/E head and supply roller.

Note: Upon reinstallation, perform the supply roller height adjustment.

2-18

2-2-8. Loading Motor Assembly Removal (Fig. 26)

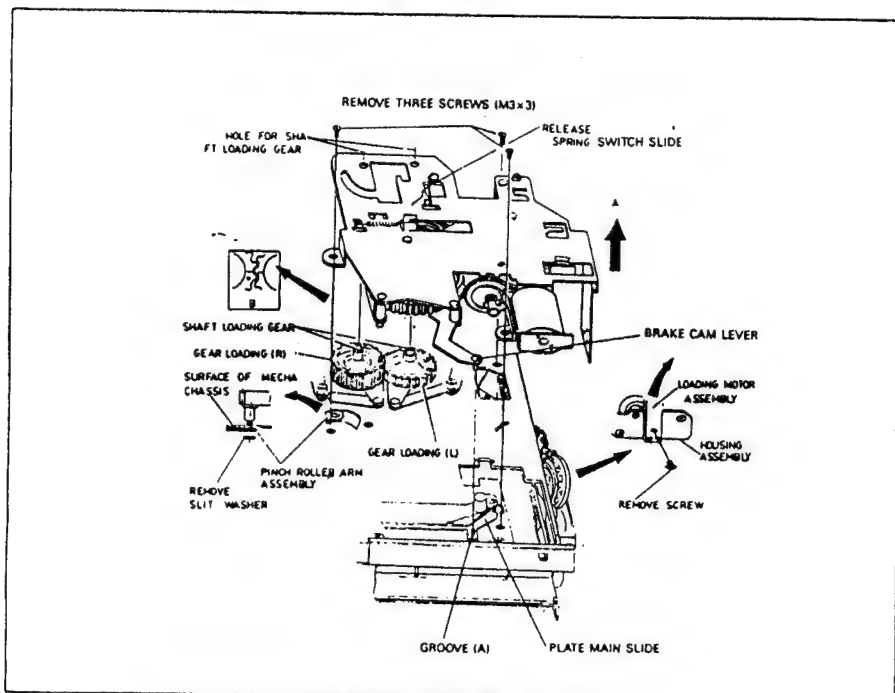


Fig. 26 Loading Motor Assembly Removal

1. Remove the top cabinet (See Fig. 1)
2. Remove the bottom cover (See Fig. 2)
3. Remove the mecha chassis assembly (See Fig. 22)
4. Remove the housing assembly (See Fig. 12)
5. Remove the slit washer
6. Release the spring S/W slide, and the gear loading spring
7. Remove the three screws and pull the loading motor assembly upward in the direction arrow mark (A)

Note: Upon reinstallation, be sure the marks on the gear loading (L), (R) are positioned in the line (See. B) and S/W slide position is at the end of left side.

2-20

2-2-10. Brake Sub (R) Assembly and Brake Sub (L) Assembly Removal. (Fig. 28)

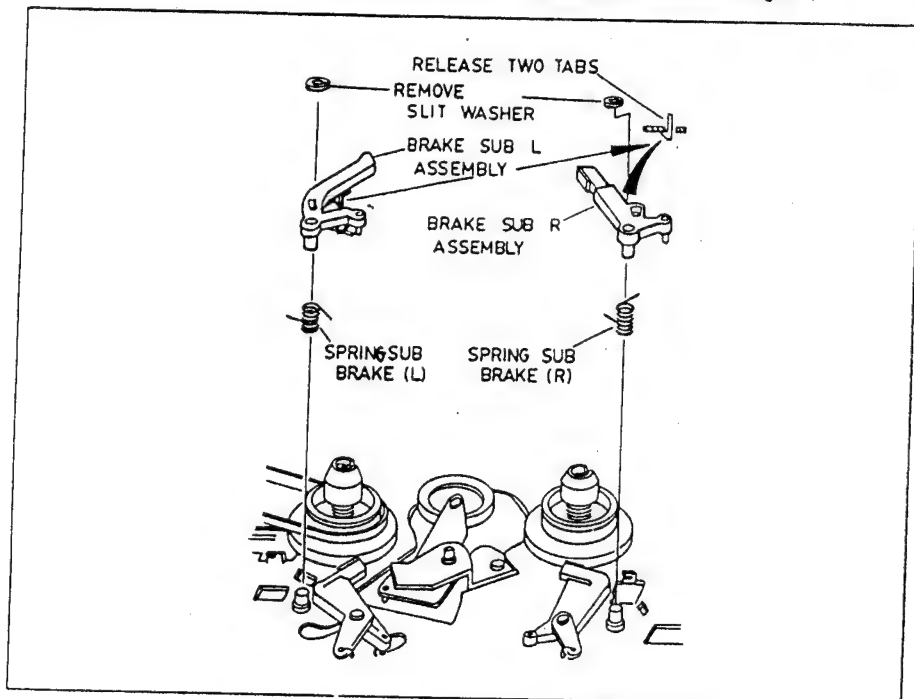


Fig. 28 Brake Sub (R) Assembly and Brake Sub (L) Assembly Removal

1. Follow the procedure for removing the Panels. (See Figs. 1 to 3)
2. Remove the housing assembly (See Fig. 12)
3. Remove the two slit washers and release the sub brake (R) spring.
4. Release the tabs holding the brake sub (R) assembly and brake sub (L) assembly.

Note: Take care when removing spring.

2-22

2-2-7. Audio/Control (A/C) Head Removal (Fig. 25)

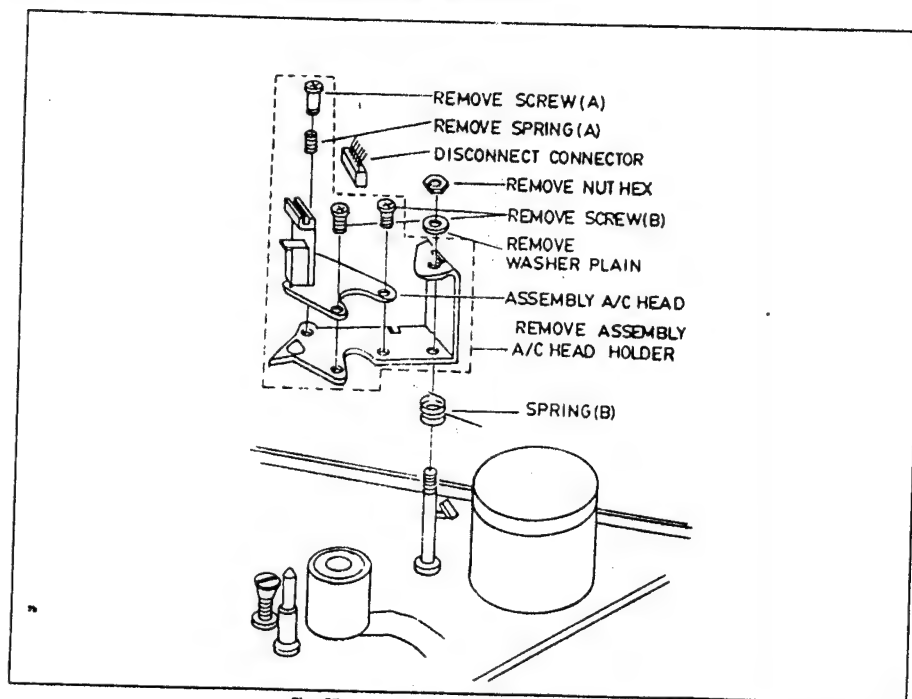


Fig. 25 Audio/Control (A/C) Head Removal

1. Remove the top cabinet. (See Fig. 1)
2. Disconnect connector from the A/C head.
3. Remove the nut holding the A/C Head Holder and remove the washer plain.
4. Pull the A/C head assembly upward to remove.
5. Remove screw (A) and spring (A)
6. Remove screw (B) and remove assembly ahead.
7. After replacing or reinstalling the assembly A/C head holder, clean the tape contact surface of the head.

Note: Upon reinstallation, hook the spring between A/C head base and mecha chassis.

After installing the assembly A/C head and assembly A/C head holder, perform the following adjustment.

- 1) A/C Head Height, Tilt and Azimuth Adjustments.
- 2) A/C Head Horizontal Position Adjustment.
- 3) Audio Playback Gain Adjustment.
- 4) Audio Bias Level Adjustment.

*Audio head height must be performed before A/C head, horizontal position adjustment is performed.
*If audio head height is adjusted, the A/C head horizontal position must be readjusted.
*After completion, of the A/C head position adjustment, the A/C head base must be positioned at approximately the center of the mat adjust.

2-19

2-2-9. Arm Tension Assembly, Tension Band Assembly and Holder Tension Spring Removal. (Fig. 27)

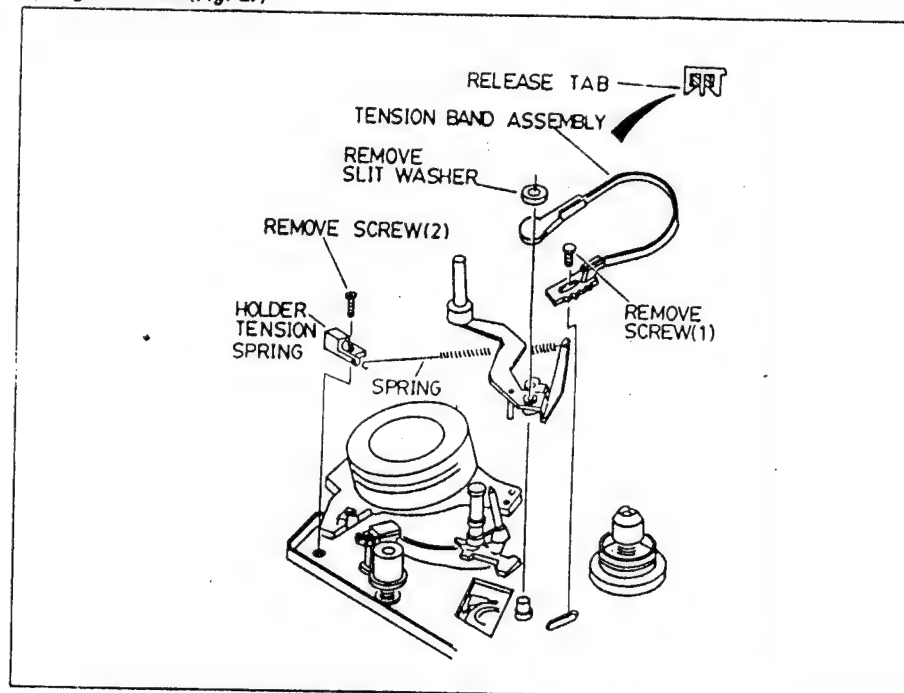


Fig. 27 Arm Tension Assembly, Tension Band Assembly and Holder Tension Spring Removal

1. Remove the screw (1) holding the tension band assembly
2. Release the spring hooked on the holder tension spring.
3. Remove the screw (2) and remove the holder tension spring.
4. Remove the slit washer and pull the arm tension assembly upward.
5. Release the tab holding the tension band assembly.

2-21

2-2-11. Brake Main (L) Assembly and Brake Main (R) Assembly Removal (Fig. 29)

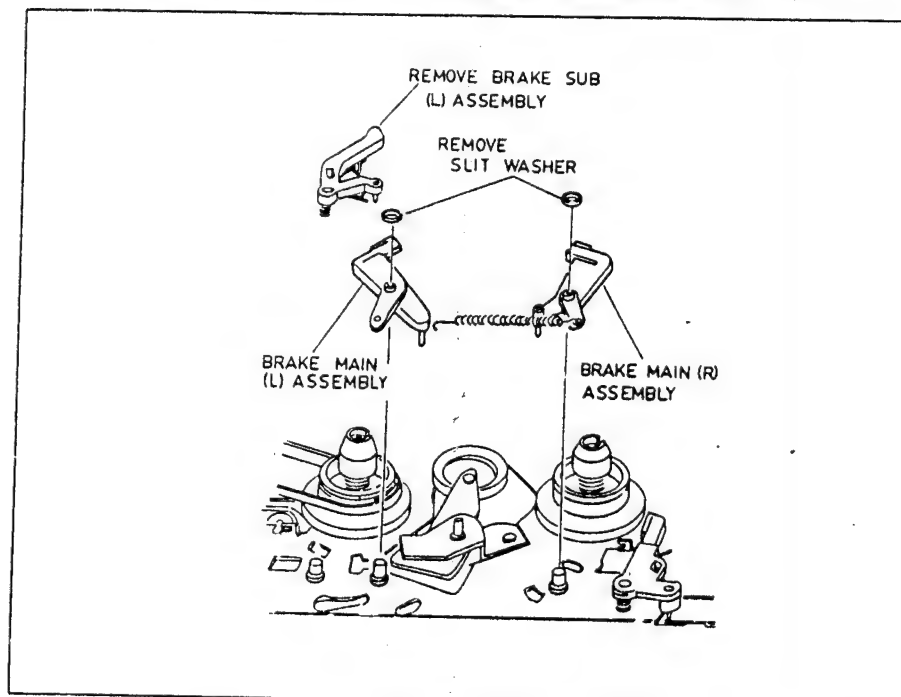


Fig. 29 Brake Main (L) Assembly and Brake Main (R) Assembly Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove the housing assembly. (See Fig. 12)
3. Remove the brake sub (L) assembly. (See Fig. 28)
4. Remove the two slit washers.
5. Release the spring hooks on the brake main assemblies.

2-23

2-2-12. Capstan Motor Removal (Fig. 30)

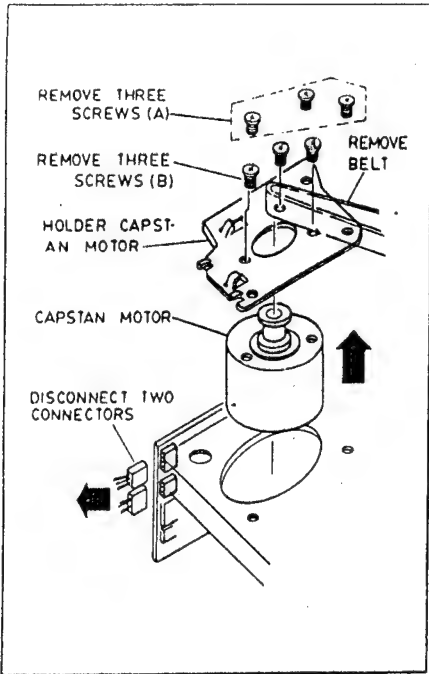


Fig. 30 Capstan Motor Removal

1. Remove the Panels. (See Fig. 1 to 3)
2. Remove the mecha chassis assembly (See Fig. 22)
3. Disconnect two connectors.
4. Release the capstan belt from the pulley capstan.
5. Remove three screws (A) holding the holder capstan motor.
6. Remove three screws (B) attached to capstan motor.

2-2-13. Assembly Gear Loading (L) (R) Removal (Fig. 31)

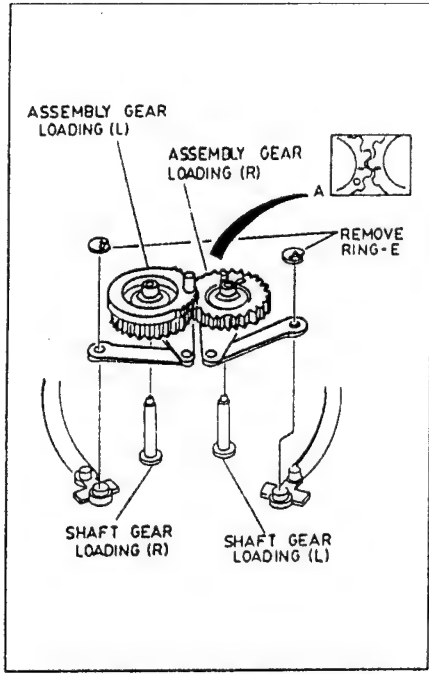


Fig. 31 Assembly Gear Loading (L) (R) Removal

1. Follow the procedure for removing the panels (See Figs. 1 to 3)
2. Remove mecha chassis assembly (See Fig. 22)
3. Remove the housing assembly (See Fig. 12)
4. Remove the loading motor assembly (See Fig. 26)
5. Remove the ring-E holding on the arm loading assembly.

Note: Fully unloaded position upon reinstallation, be sure the marks on the gear loading (L) (R) are positioned in the line (See. A)

2-2-14. Guide Roller Assembly Removal (Fig. 32)

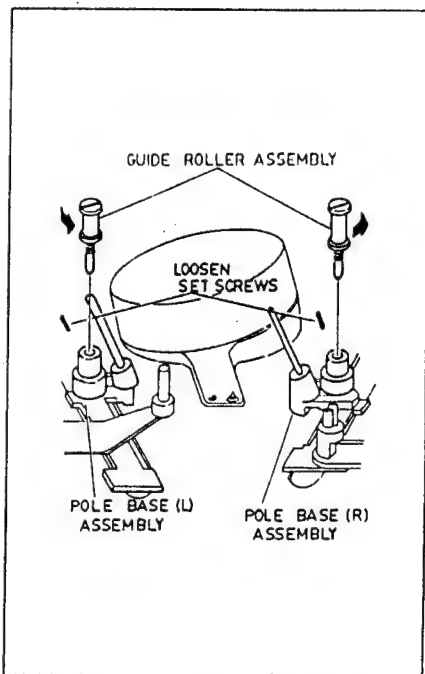


Fig. 32 Guide Roller Assembly Removal

1. Remove the top and the bottom cover. (See Figs. 1, 2)
2. Loosen each set screw at the pole base assembly.
3. Turn the guide roller assemblies to the counter clock wise.
4. After replacing or reinstalling the guide roller assemblies, clean each tape contact surface of the guide roller assemblies.

Note: Upon reinstallation, perform the guide roller assemblies adjustment.

2-2-15. Reel Disk (S) Assembly Removal (Fig. 33)

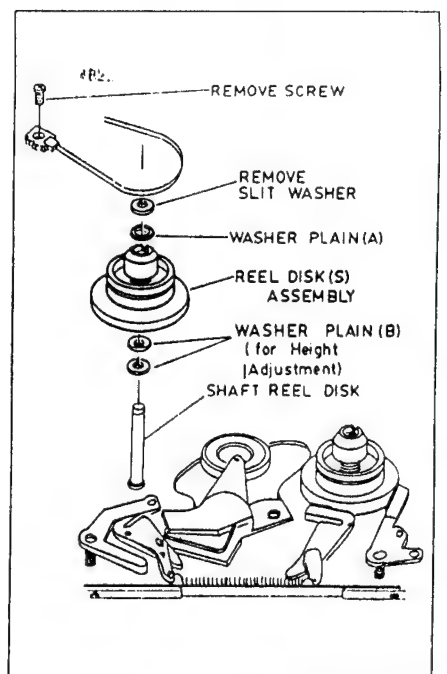


Fig. 33 Reel Disk (S) Assembly Removal

1. Remove the top and bottom panels. (See Figs. 1, 2)
2. Remove the housing assembly (See Fig. 12)
3. Remove the screw holding the tension band assembly.
4. Remove the slit washer from the shaft reel disk.
5. Remove the washer plain (A)

Note: Pay particular attention to the washer plain (B) under the reel disk (S) ass.

2-24

2-25

2-2-16. Reel Disk (T) Assembly Removal. (Fig. 34)

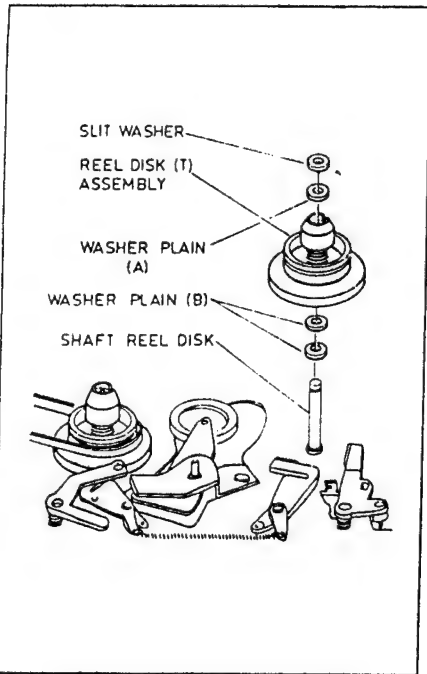


Fig. 34 Reel Disk (T) Assembly Removal

1. Remove the top and bottom cover. (See Fig. 1,2)
2. Remove the housing assembly. (See Fig. 12)
3. Remove the slit washer from the shaft reel disk.
4. Remove the washer plain (A) and pull the reel disk (T) assembly upward.

Note: Pay particular attention to the washer plain (B) under the reel disk (T) assembly.

2-2-17. Pinch Roller Assembly and Pinch Roller Arm Assembly Removal (Fig. 35)

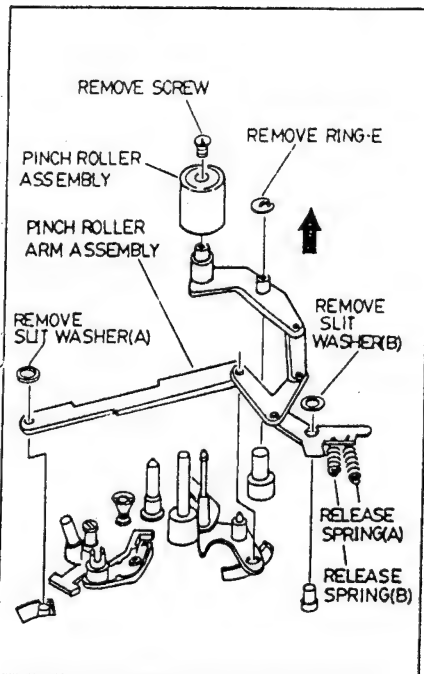


Fig. 35 Pinch Roller Assembly and Pinch Roller Arm Assembly Removal

1. Follow the procedure for removing the panels (See Figs. 1 to 2)
2. Remove the housing assembly. (See Fig. 12)
3. Remove the screw holding the pinch roller assembly.
4. Remove the ring-E
5. Remove the slit washer (A) and slit washer (B)
6. Release the spring pinch roller.
7. Pull the pinch roller arm assembly upward (arrow mark direction) to remove.

2-2-18. Assembly Holder LED Removal (Fig. 36)

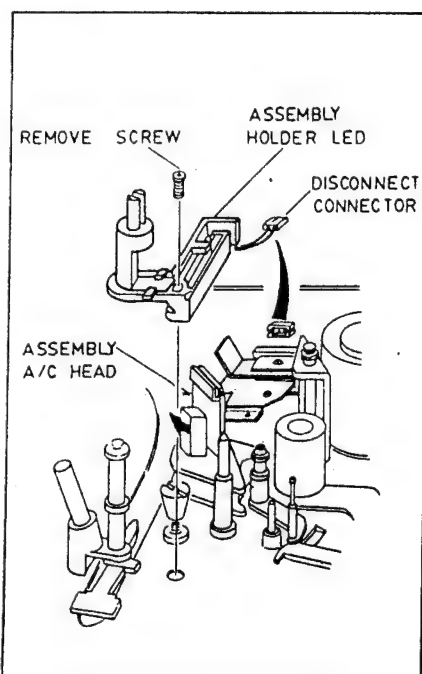


Fig. 36 Assembly Holder Led Removal

1. Follow the procedure for removing the panels. (See Fig. 1)
2. Remove the housing assembly. (See Fig. 12)
3. Disconnect connector.
4. Remove screw and pull the assembly holder LED upward to remove at the same time pushing the assembly A/C head toward arrow mark direction.

2-2-19. Review Arm Assembly Removal (Fig. 37)

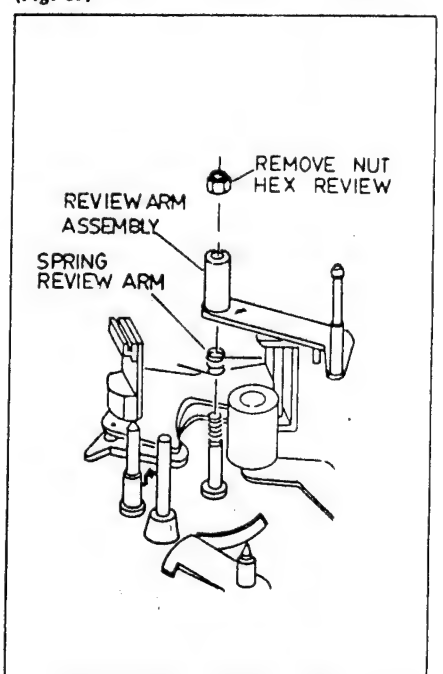


Fig. 37 Review Arm Assembly Removal

1. Remove the top cabinet (See Fig. 1)
2. Remove nut hex, collar review and washer Plain.
3. Release spring review arm.
4. Pull the review arm assembly upward to remove.

Note: After replacing or reinstalling the review arm assembly.
•Clean the tape contact surface of the review arm assembly.
•Upon reinstallation, perform the review arm assembly adjustment.

2-26

2-27

2-2-21. Capstan Flywheel Assembly Removal (Fig. 39)

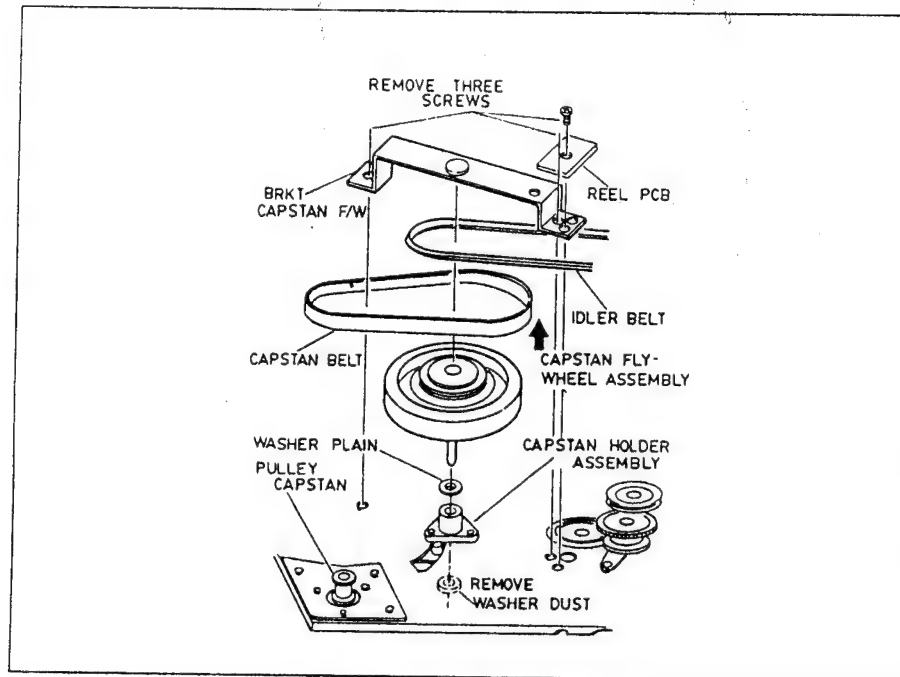


Fig. 39 Capstan Flywheel Removal-Bottom View

1. Remove the top and bottom panels. (See Figs. 1,2)
2. Remove three screws.
3. Release idler belt and capstan belt.
4. Carefully remove the capstan flywheel assembly. A dust washer is located on the shaft below the mecha chassis.
5. After replacing or reinstalling the capstan flywheel, clean the capstan shaft.
6. Remove three screws to remove capstan holder assembly.

2-2-20. Drum Assembly Removal (Fig. 38)

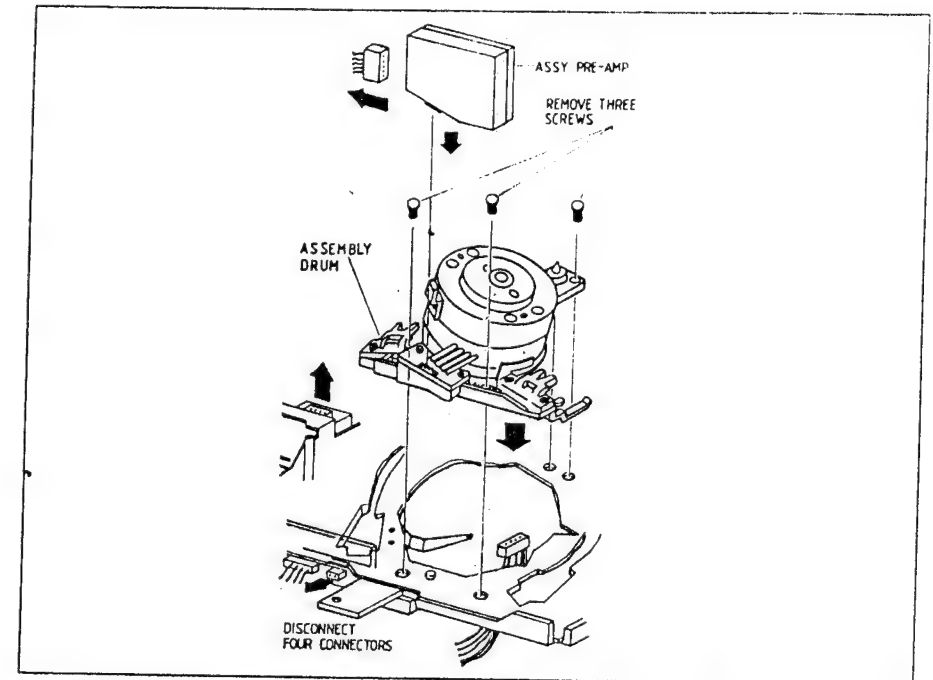


Fig. 38 Drum Assembly Removal

Note: Upon replacement of drum assembly bracket, all mechanical adjustment must be performed.

1. Follow the procedure for removing the panels. (See Fig 1 to 2)
2. Remove the pre-amp
3. Disconnect four connectors.
4. Remove three screws.

2-2-22. Assembly Photo Interrupter Removal. (Fig. 40)

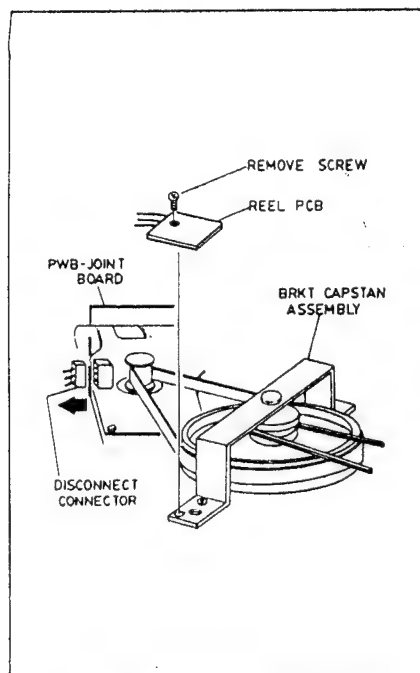


Fig. 40 Assembly Photo Interrupter Removal

1. Remove the top and bottom panels. (See Figs. 1,2)
2. Disconnect connector.
3. Remove screw.

2-2-23. I.B Slide Assembly and Plate Main Slide Removal. (Fig. 41)

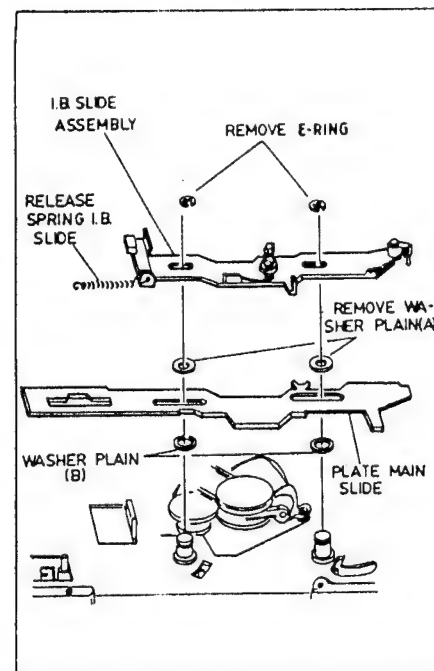


Fig. 41 I.B Slide Assembly and Plate Main Slide Removal

1. Follow the procedure for removing the panels. (See Figs. 1 to 3)
2. Remove mecha chassis assembly. (See Fig. 22)
3. Remove loading motor assembly. (See Fig. 26)
4. Remove the ring-E and release spring I.B slide.
5. Remove washer plain (A) and pull the plate main slide upward to remove.

Note: Pay particular attention to the washer plain (B) under the plate main slide.

•I.B: Idler/Break

2-2-24. Idler Clutch Assembly Removal. (Fig. 42)

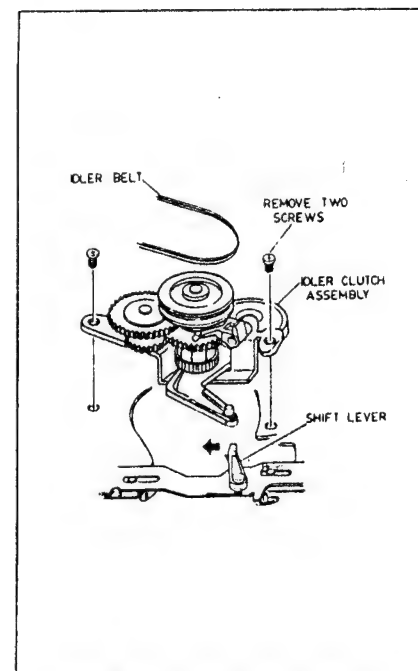


Fig. 42 Idler Clutch Assembly Removal

1. Remove the bottom cover. (See Fig. 2)
2. Release the idler belt and remove the two screws.
3. Pull the Idler clutch assembly upward to remove, at the same time push the shift lever about 5-10 mm.

2-2-25. Remote Control Hand Unit Disassembly (Fig. 43)

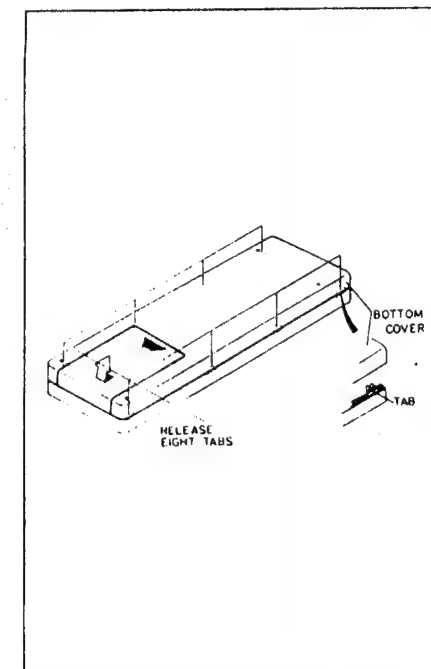


Fig. 43 Remote Control Hand Unit Cover Removal

Remote Control Hand Unit Cover Removal (Fig. 44)

1. Release eight (8) tabs holding the bottom cover.

2-3. HOW TO CHECK THE CIRCUIT BOARD ASSEMBLIES

2-3-1. Regulator C.B.A (Fig. 44)

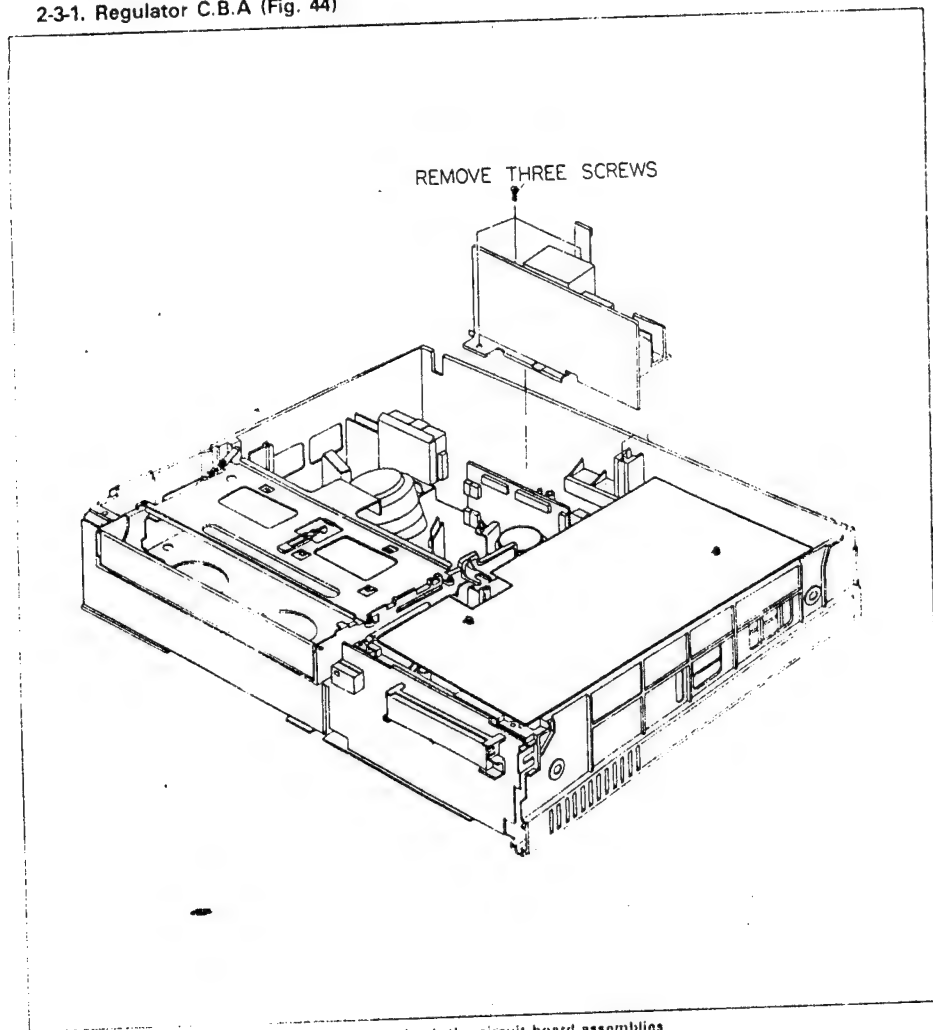


Fig. 44 How to check the circuit board assemblies

1 Release the regulator C.B.A

Note: Remove the connector (CN101) to check the regulator C.B.A.

2-3-2. Main A C.B.A

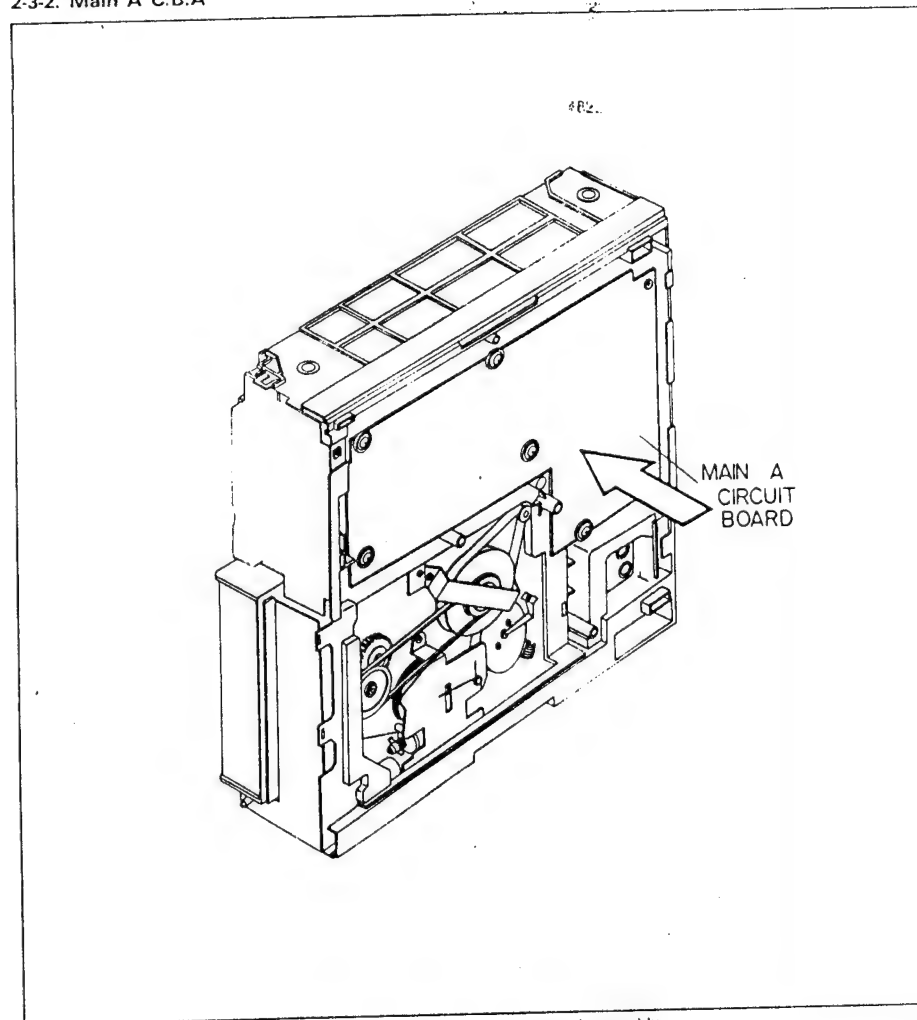


Fig. 45 How to check the circuit board assembly

1. Check from the direction of the arrow.

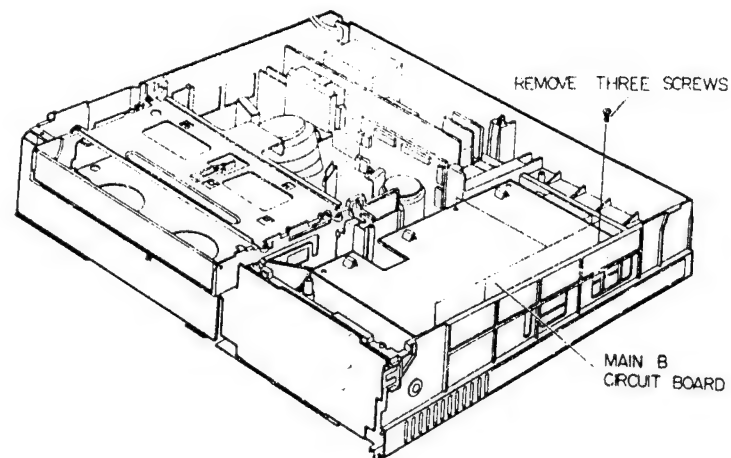


Fig. 46 How to check the circuit board assembly

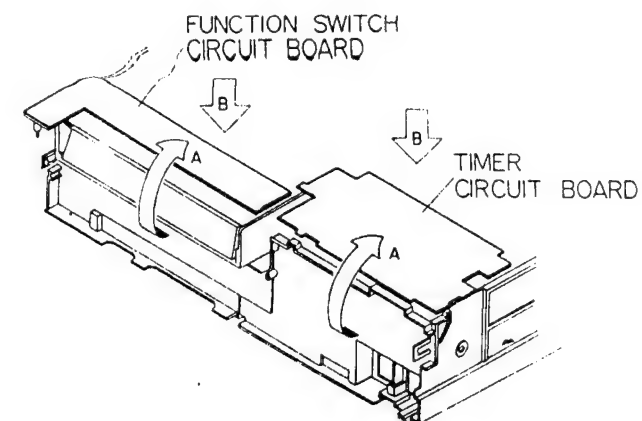












Fig. 47 How to check the circuit board assemblies

1. Remove the timer/input key C.B.A and function switch C.B.A together in the direction of arrow (A), and check from the direction of arrow (B).

Note: Connect the connector (CN701) again to check timer/ input key C.B.A and connect this connector as the initial state after checking.

3. MECHANICAL ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT TOOLS

No	Jig Item.	Code No.	Configuration	Description	Remarks
1	Head Gauge	SSJ-1001		This jig is used to check and adjust the torque of Takeup/Supply Reel.	
2	Master Plane and Reel Disk Height	SSJ-1002		This jig is used to check the height difference between Reel Disk and Deck Plate	
3	Back Tension Measuring Cassette Tape	SSJ-1004		This tape is used for supply reel torque alignment.	
4	Guide Pole Height Adjusting Jig.	SSJ-1005		Used to adjust tape height to the video head.	
5	Drum Replacement Jig.	SSJ-1007		This jig is used when replacing the VCR's upper drum.	
6	Alignment Tape	(SR1-2) SSJ-1014C		This tape is used for fine electrical adjustment and tape running system (MECHA) alignment.	
		(SR2-2) SSJ-1014D			
7	Tension Gauge (5.0kg)	SSJ-1008		The gauges are used for tension measurements.	S.N.A
8	Torque Gauge	SSJ-1009		This jig is used to check and adjust the torque of Takeup/Supply Reel.	S.N.A
9	Hex Wrench (0.9mm)	SSJ-1010A		These wrenches are used for locking or tightening special Hexagon type screws	S.N.A
	Hex Wrench (1.2mm)	SSJ-1010B			
	Hex Wrench (1.5mm)	SSJ-1010C			
10	Tape Tension Gauge (Tentelo Meter)	SSJ-1011		This tape tension gauge is used for measuring the back tension of the running tape.	S.N.A

*S.N.A: Service Not Available

3-2. Reel Disk Heights (Fig. 1)

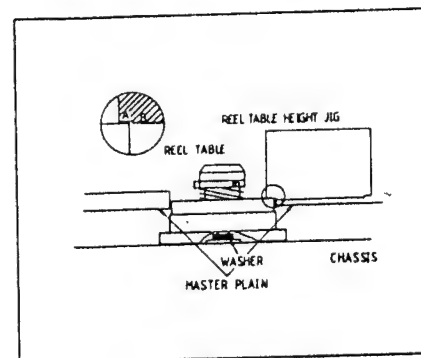


Fig. 1 Reel Disk Height

The height of the supply and take-up turntables should be the same, ± 0.2 mm. Turntable heights are adjusted by changing washer plain stack located under each turntable.

Check turntable heights by installing the Master Plain. Set the Reel Disk Height Jig in place and check the height of the supply and take up turntables. (See Fig. 1.)

The size of washer is 0.13 mm (3.2 mm ID). This washer should be used to achieve equal reference heights for both turntables.

Note: For proper height point "A" should slide over the reel disk and point "B" should not. (Fig. 1)

3-3. Back Tension Adjustment (Fig. 2)

When the back tension is properly adjusted, the service test tape recorded under laboratory conditions will play back with minimum skew error—picture displacement in line following head switching. The tension is set as follows:

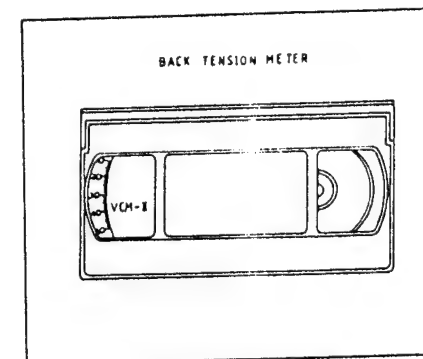


Fig. 2 Back Tension Meter

1. Load the instrument with the back tension adjustment tape.
2. Place the instrument in the "play" mode.
3. Read the scale on the reel disk (S).
4. This reading should be between 39.5 and 44.5
5. After loosening the screw, move the holder tension spring direction "b" when the tension adjustment tape reads 45 or higher, and to the holder tension spring in direction "a" when it is 39 or lower, and adjust the back tension for a nominal reading of 42 on the scale.
6. Recheck the arm tension position when the back tension is changed greatly (6 or more)

Note: The instrument must be in a horizontal position for this adjustment.

3-4. Arm Tension Position Adjustment (Fig. 3)

1. After removing the housing assembly, the tenth mode of the Deck Joint P.C. Board's wafer CN 205 connect to ground. (Refer to page 3-7).
2. Place the instrument in the "play" mode.
3. After loading is complete, loosen the screw holding the holder tension A and adjust so that the clearance between the center of roller supply and the pole tension is 1.6 mm - $^{+1.0}_{-0.5}$ mm.
4. Tighten screw to secure adjustment.

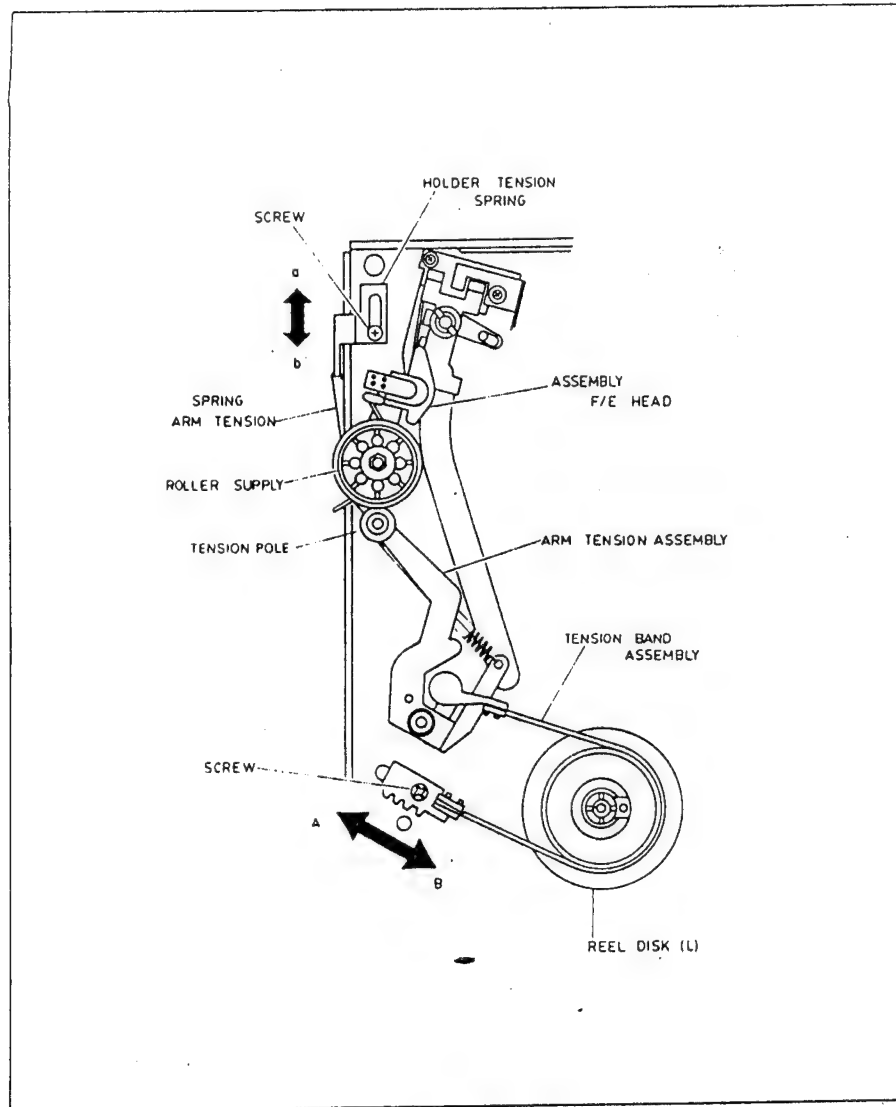


Fig. 3 Arm Tension/Back Tension

3-5. Brake Torque Confirmation (Fig. 4)

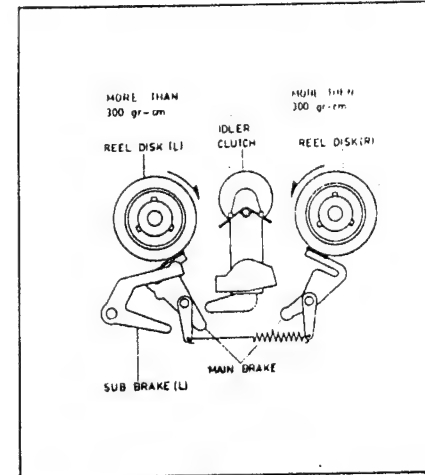


Fig. 4 Main Brake Torque

1. Remove top cover and place instrument in the "stop" mode.
2. Clean the brake surfaces on turntables using "Kim-wipes" and solvent before measuring torque.
3. Attach the torque gauge head to the torque gauge.
4. Place torque gauge on the reel disk (S) turntable.
5. Turn torque gauge in a clockwise direction until the brake begins slipping. Maintain "slipping" rotation and read torque—torque reading should be more than 300 grams-cm.
6. Repeat for the take up side turning the torque gauge counterclockwise—reading should be more than 300 grams-cm.

Note: Brake torque problems can cause tape stretch, broken tape or loose tape wind in cassette. These symptoms can usually be corrected by properly cleaning. If not replace brakes.

3-6. Play, Fast Forward, Rewind Torque Confirmation

1. Place the cassette holder in the loading state without inserting a cassette tape. (Refer to page 3-7)
2. Attach the torque gauge head to the torque gauge.
3. Place torque gauge on the reel disk (T), operate instrument in the "SP Record" mode—torque should measure 150-30 grams-cm.
4. Press Fast Forward button—torque reading should be 600 grams-cm minimum.
5. Place torque gauge on the reel disk (S) and operate instrument in the "rewind" mode—torque reading should be 600 grams-cm minimum.

3-7. Rough Tape Travel Check

Using a blank tape, place the instrument in "play" and note the following.

1. The tape should be in full contact with all tape guide posts.
2. The tape should be crease-free with all tape guide posts.
3. The supply roller should be moving freely.
4. The tape should be perpendicular to the longitudinal axis of the heads when crossing the erase head and the A/C head.
5. The tape should be centered top to bottom on the head when crossing the full erase head.
6. The tape should follow the lower-edge guide surface on the D-D drum.

3-8. Creasing or Slack Tape (Fig. 5)

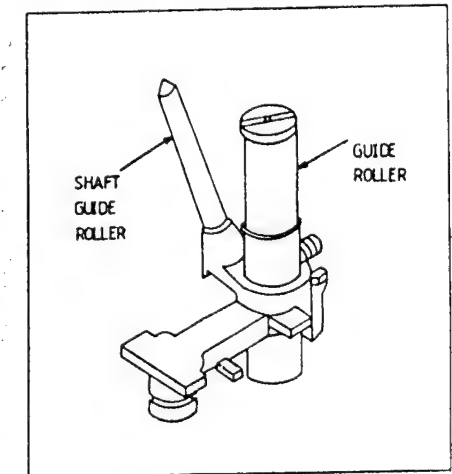


Fig. 5 Creasing or Slack Tape

Load instrument with a blank tape and place in "play" mode. With the tape running, inspect the tape path for creasing or frilling along top or bottom edges of tape. If the tape is creasing or frilling, check the tape as it goes "on" and comes "off" the lower drum.

The tape should follow the lower edge guide surface on the drum. If the tape is high on the guide surface, rough adjust guide rollers to correct this condition (use guide roller adjusting driver).

It will now be necessary to perform guide rollers adjustments and confirm interchangeability.

3-9. Mechanical Interchangeability Considerations

The tape guide adjustments position the tape so that the prerecorded tracks on the test tape align perfectly with the scan of the video head assembly. The mechanical interchangeability adjustment procedures will insure that a tape recorded on one VHS recorder will play back properly on another machine.

Usually little or no mechanical adjustment is required after routine (head replacement) servicing. Before making any adjustments, perform the following interchangeability confirmation procedure to determine if adjustment is required. If the video heads are replaced, it will also be necessary to confirm the PG shifter adjustment.

If major mechanical servicing was performed (tape guide replacement, etc.) perform "Rough Tape Travel Adjustment" before using test tape.

3-10. Interchangeability Confirmation (Fig. 6)

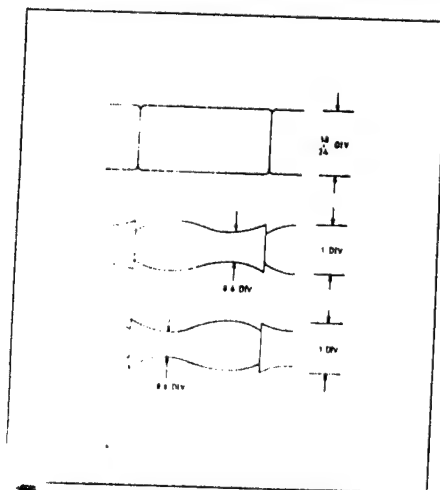


Fig. 6 Interchangeability Confirmation

This confirmation check should be performed after any servicing operation that could adversely affect the tape bath; i.e. D-D drum motor replacement, tape guide replacement, audio/control head replacement, etc.

If unit passes this confirmation check, no tape guide adjustment is required.

Preliminary: This adjustment should be performed after the Tracking Preset adjustment is completed.

1. Connect a channel-1 scope probe (2V/div.; 5ms/div.) to TP201 (MAIN A PCB.) Trigger the scope on channel-1.
2. Connect the channel-2 scope probe (20mV/div.) to TP3301 (MAIN B PCB; PB FM LEVEL).
3. Play monoscope signal on test tape (Alignment Tape SR1-2, See Jig List).
4. Adjust tracking control (VR703) for maximum FM envelope amplitude (TP 3301 signal) at center of envelope.
5. Adjust scope vertical gain control so that maximum envelope amplitude is 1.8—2.4 graticule divisions.
6. Turn tracking control (VR703) to the left so that maximum envelope amplitude is graticule divisions.
7. Confirm that the minimum envelope amplitude is 0.6 graticule divisions or more at this time.
8. Turn tracking control (VR703) to the right so that maximum envelope amplitude is 1 graticule divisions.
9. Confirm that the minimum envelope amplitude is 0.6 graticule divisions or more at this time.
10. When the confirmation items described above are satisfied, the tape guide adjustment is not necessary. When they are not satisfied, adjust the tape guide.
11. Set tracking control to detent (fixed) position. They adjust Control Track/Audio Head assembly position (X-value) to obtain maximum FM envelope (TP3301 signal) at the detent position.)

Note: If the D-D drum motor assembly has been replaced, perform the following electrical adjustments.

- PG Shifter adjustment
- Record Chroma and Luminance Level adjustments

3-11. Guide Rollers Adjustments (Fig. 7)

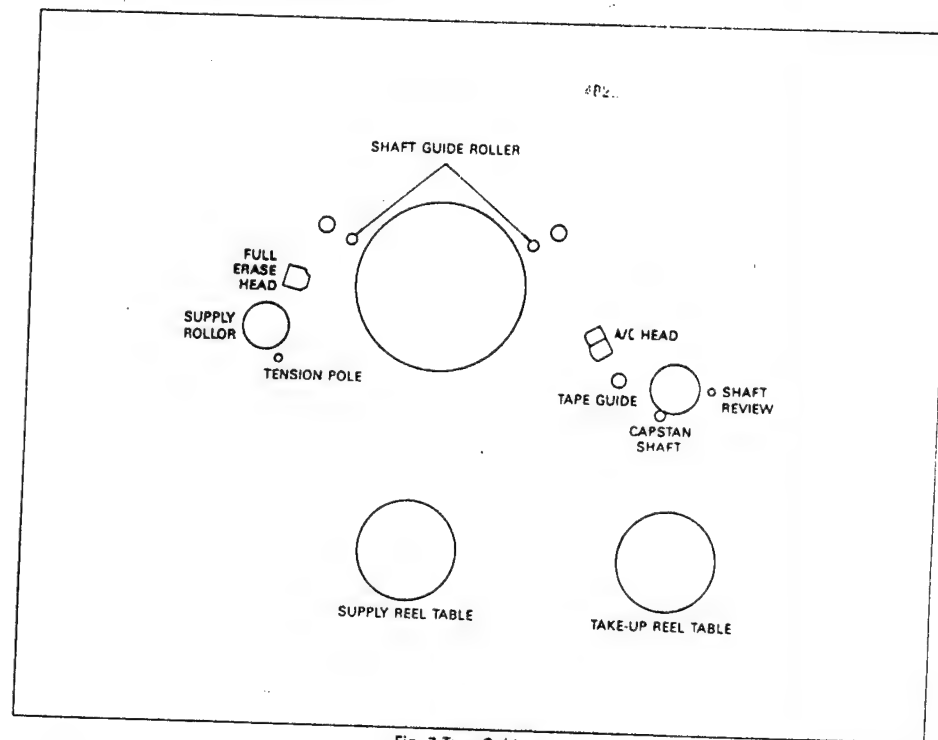


Fig. 7 Tape Guides

1. Connect channel-1 scope probe (2V/div.; 5ms/div.) to TP201. Trigger the scope on channel-1.
2. Connect channel-2 scope probe (10mV/div.) to TP 3301 (Main B PCB; PB FM LEVEL).
3. Set tracking control to detent (fixed) position and play back test tape monoscope signal. (Alignment tape SR1-2, Ref. Jig List). Loosen set screw on pole base of guide rollers.
4. Adjust guide roller down using guide roller adjusting driver (CW) until bottom edge of tape slightly bows the bottom of tape guide.
5. Monitor the head FM envelope at TP 3301.
6. Raise (CCW) guide roller (right guide) to obtain maximum amplitude at right side of head envelope.
7. Raise (CCW) guide roller (left guide) to obtain maximum amplitude at left side of head envelope.
8. Adjust tracking control (VR703) for best envelope.
9. Touch up guide roller to maximum amplitude flat envelope. Tighten set screw at pole base of guide rollers.
10. Adjust control head position (if necessary) to move the best envelope condition to the tracking control detent position.

Note: In the event that correct head envelope is not obtainable, check Audio Control (A/C) head adjustments.

3-12. Audio/Control Head (Height/Tilt/Azimuth) (Fig. 8)

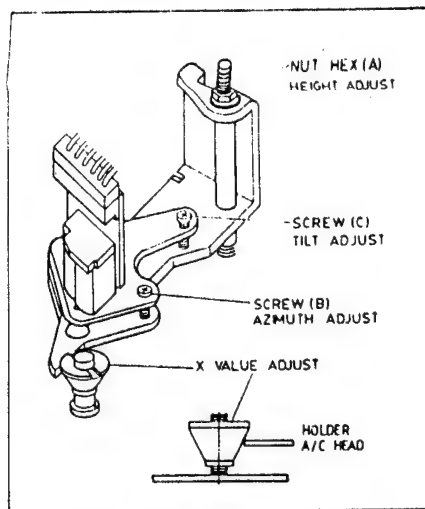


Fig. 8 Audio/Control Head Assembly

1. Connect a scope probe (0.5V/div.; 1ms/div.) to TP0503 (Use audio out jack) located on the main circuit board.
2. Play back a 1-KHz (color bars) audio signal on test tape (Alignment Tape SR 2-2. See Jig List)
3. Alternately adjust height nut (A) and tilt screw (C) for maximum output.
4. Play back a 6-KHz audio signal on test tape. (Alignment Tape SR 1-2. See Jig List)
5. Adjust azimuth screw (B) for maximum output.
6. Repeat steps 3 and 5 for maximum 6-KHz and 1-KHz output.
7. Lock the A/C Head (A) with paint.

3-13 Audio/Control Head (AC Head Horizontal Position) (Fig. 8)

This adjustment establishes proper tape tracking when the tracking control (VR703) is in its detent position.

Note: This adjustment should only be made after the tracking adjustment is completed. (See Electrical Adjustments.)

1. Connect a scope probe (10mV/div.; 5ms/div.) to TP 3301 (MAIN B PCB; PB FM LEVEL).
2. Set tracking control (VR703) to the detent (fixed) position.

3. Play back monoscope signal on test tape. (Alignment tape SR 1-2. See Jig List)
4. Carefully move the A/C head base plate in either direction for maximum head envelope output by adjusting the X-value screw.

3-14. Operating The VCR without Inserting a Cassette Tape (Fig. 9)

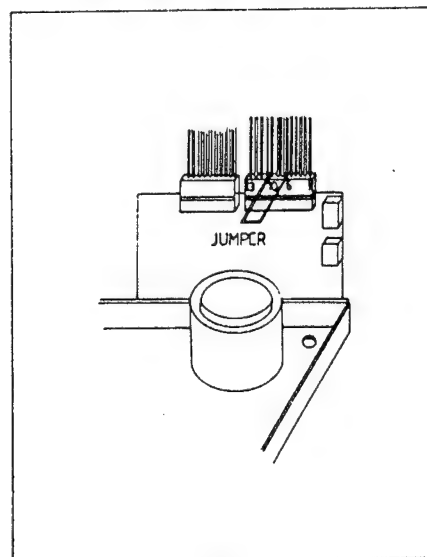


Fig. 9

1. Remove the top cover.
2. Remove the housing assembly (Fig. 12)
3. Plug the power cord of the VCR into the AC outlet.
4. Turn "on" the power switch of the VCR.
5. Connect a jumper between pins 6 and 10 of connector.
6. The above procedure enables to operate the VCR without loading a cassette tape.

Note: Operate the play or record button in order to place the VCR in the record mode or in the play mode.

4. ELECTRICAL ADJUSTMENTS

4-1. Circuit Board Location and Identification (Fig. 1, 2)

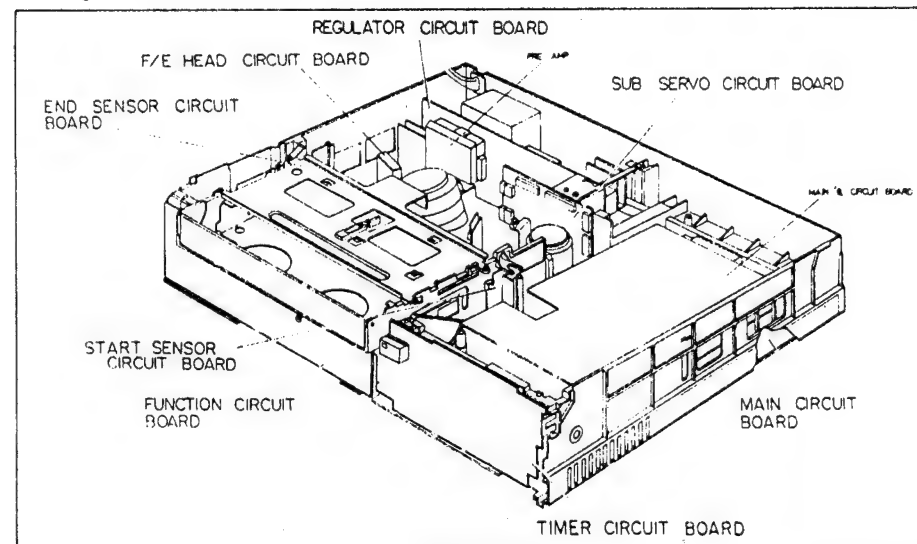


Fig. 1 Top View

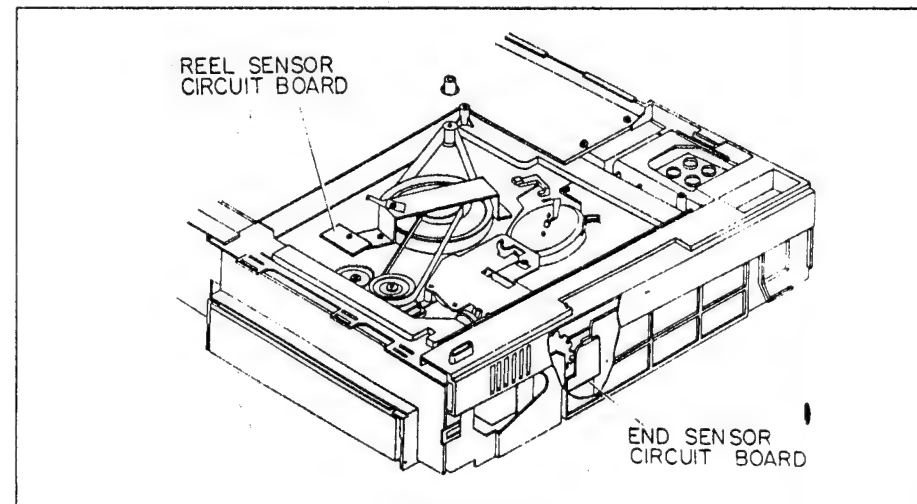


Fig. 2 Bottom View

4-2. SERVO SECTION in Main. A PCB

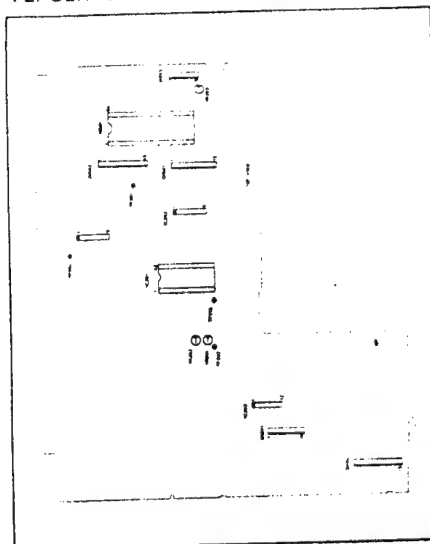


Fig. 3 SERVO SECTION in Main A PCB-Component Side

4-2-1. PG (Pulse Generator) Shifter Adjustment

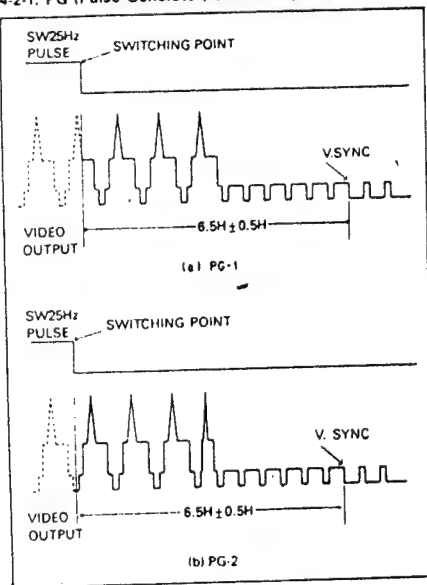


Fig. 4 PG Shifter

Equipment: Oscilloscope
 Test points: TP3307 (SW 25Hz) Main: B
 TP3305 (Video Output Signal) Main: B
 Adjust: VR201 (PG-1) Main: A
 VR202 (PG-2) Main: A

The Pulse Generator (PG) Shifter determines the video head switching point during playback. Misadjustment of the PG Shifter may cause head switching noise in the picture and/or vertical jitter.

- 1) Load the instrument with an alignment tape and playback the color bar signal or monoscope signal. (Alignment Tape SR2-2).
- 2) Connect a channel-1 scope probe (1V/div.; 50us/div.) to TP3307. Trigger the scope on channel-1.
- 3) Connect the channel-2 scope probe (1V/div.) to TP3305.
- 4) Set the scope to (+) slope and adjust the PG-1 shifter control (VR201) so that the trailing edge of the SW 25Hz pulse is placed $6.5H \pm 0.5H$ (horizontal) lines before the start of vertical sync pulse.
- 5) And then, set the scope to (-) slope and adjust the PG-2 Shifter control (VR202) as in the PG-1. (Fig. 4)

4-2-2. Tracking Preset Adjustment

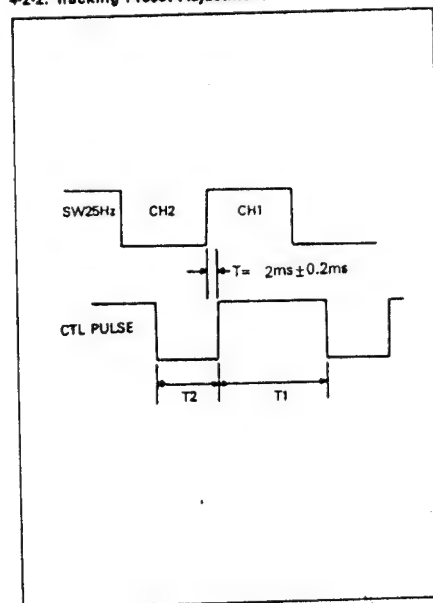


Fig. 5 Tracking Preset

Equipment: Oscilloscope
 Test Points: TP201 (SW 25Hz) Main: A
 TP215 Main: A
 Adjust: VR203 (Tracking Preset) Main: A

This adjustment sets the optimum tracking during playback of a tape recorded on this instrument so that it occurs at the detented position of the Tracking control (VR703).

- 1) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR2-2).
- 2) Connect a channel-1 scope probe (2V/div.; 5ms/div.) to TP201. Trigger the scope on channel-1.
- 3) Connect the channel-2 scope probe (2V/div.) to TP215.
- 4) Set the Tracking Control (VR703) on the front panel to the detented position and adjust the Tracking Preset Control (VR203) to align the pulse width $T = 2.0ms \pm 0.2ms$. (Fig. 5)

Note: Make sure that $T_1 > T_2$. If not, change the order of the CTL head wire for the correct SERVO adjustment.

4-2-3. Vertical Lock Pulse Adjustment

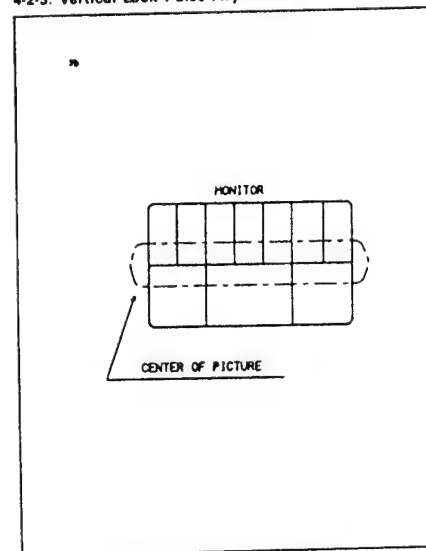


Fig. 6 Vertical Lock Pulse

Equipment: TV monitor
 Adjust: VR702 Time

This adjustment is to prevent vertically unstable picture in Pause mode.

- 1) Apply a PAL color bar signal to the Video Input jack (BNC) on the rear panel.
- 2) Rotate the input selected S/W to AUX.
- 3) Insert a blank tape and make a recording for a few minutes.
- 4) Playback in PAUSE/STILL mode.
- 5) Adjust the V-Lock Control VR702 so that the center of picture is most stable. (Fig. 6).

4-3. AUDIO SECTION in Main. B PCB

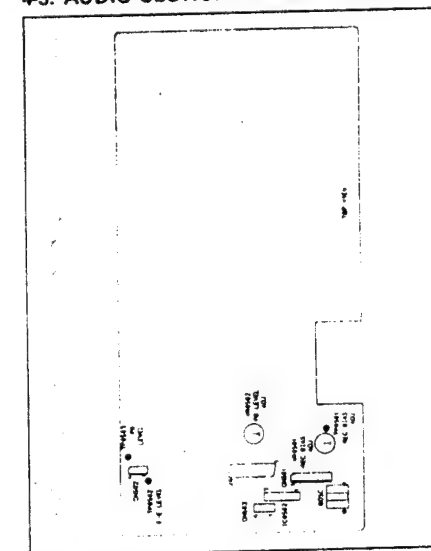


Fig. 7 AUDIO SECTION in Main PCB-Component Side

4-3-1. Audio PB Level Adjustment

Equipment: AC Voltmeter
 Test Points: TP0503 (Audio Output) Main. B
 Adjust: VR0502 (Audio PB Level Control) Main. B

This adjustment sets the output level of the audio signal to the specified level.

- 1) Connect a AC Voltmeter (0dB=1Vrms) to TP0503.
- 2) Load the instrument with an alignment tape and playback the 1KHz audio signal. (Alignment Tape SR2-2).
- 3) Adjust the Audio Playback Level Control (VR0502) for 500mVrms.

4-3-2. Audio Bias Level Adjustment

Equipment: Oscilloscope
 Test Points: TP0501 (Rec Bias Level) Main. B
 Adjust: VR0501 (Audio Bias Level Control) Main. B

This adjustment optimizes the audio record bias. When the audio record bias is too low, high frequencies are increased resulting in distortion. When the level is too high, high frequencies are attenuated.

- 1) Connect a channel-1 scope probe (10V/div.; 10 μ s/div.) to TP0501.
- 2) Load the instrument with a blank tape and place in the SP record mode with no signal.
- 3) Adjust the Audio Bias Level Control (VR0501) for 40 Vp-p \pm 1Vp-p.

4-4. LUMI/CHROMA SECTION in Main B.

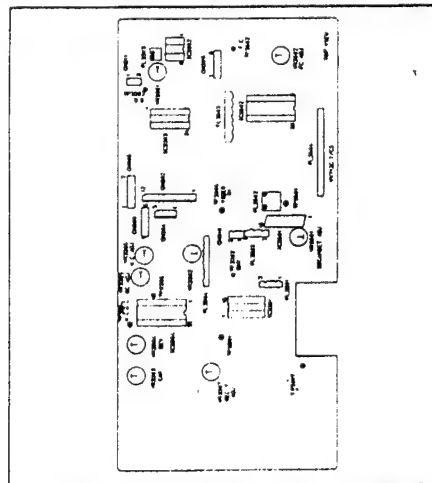


Fig. 8 LUMI CHROMA SECTION in Main. B Component Side

4-4-1. PB Luminance Level Adjustment

Equipment: Oscilloscope
 Test Point: TP3305 (Video Output Level) Main. B
 Adjust: VR3302 (PB Luminance Level Control) Main. B

This adjustment sets the output level of the video signal to the specified level.

- 1) Connect a channel-1 scope probe (0.5V; 10 μ s/div.) to TP3305.
- 2) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR2-2).
- 3) Adjust the PB Luminance Level Control (VR3302) for 2Vp-p.

4-4-2. CCD IN (Clamp) Adjustment

Equipment: Oscilloscope
 Test Point: TP3303 (CCD Video Level) Main. B
 Adjust: VR3301 (CCD Level Control) Main. B

This adjustment is for the compensation of the Drop Out. When there is the Drop Out, if the CCD output level is very low, the Black Trigger occurs. If the level is very high, the White Trigger occurs.

- 1) Connect a channel-1 scope probe (0.1V/div.) to TP3303.
- 2) Load the instrument with an alignment tape and playback the color bar signal. (Alignment Tape SR2-2).
- 3) Adjust the CCD IN Control (VR3301) for 0.6Vp-p.

4-4-3. Sub Carrier Frequency (4.43 MHz) Adjustment

Equipment: Frequency Counter
 Test Point: TP3502 (VXO OUT) Main. B
 Adjust: VR3502 (Sub Carrier Frequency) Main. B

This adjustment sets the 4.43MHz VXO oscillation frequency accurately. When this adjustment is incomplete, 1H delay of the video signal is disabled and the S/N deteriorates.

- 1) Connect a frequency counter to TP3502.
- 2) Load the instrument with an alignment tape (Alignment Tape SR2-2) and play it back.
- 3) Adjust the Sub Carrier Frequency Control (VR3502) so that the frequency reads 4.43619MHz \pm 10Hz.

4-4-4. White & Dark Clip Adjustment

Equipment: PAL TV TEST SIGNAL GENERATOR
 Oscilloscope
 Test Point: TP3304 (Video White/Dark Clip Level) Main. B
 Adjust: VR3306 (White Clip) Main. B
 VR3305 (Dark Clip) Main. B

This adjustment is used to prevent the Overmodulation. If the adjustment is over the accurate point, the White/Dark Clip occurs in playback and the S/N ratio decreases for the AM elements inter mixed.

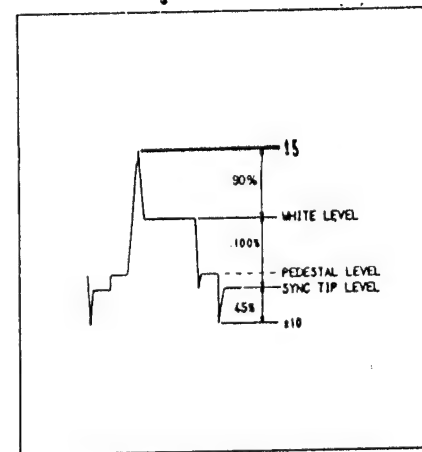


Fig. 9 White and Dark Clip Adjustment

- 1) Apply a PAL color bar signal to the video input jack on the rear panel.
- 2) Connect a channel-1 scope probe (0.2V/div.; 20 μ s/div.) to TP3304.
- 3) Insert a blank tape and make a recording.
- 4) Adjust the White Clip Control (VR3306) and Dark Clip Control (VR3305) so that the overshoot and undershoot are as shown in Fig. 9.

4-4-5. FM Carrier & Deviation Adjustment

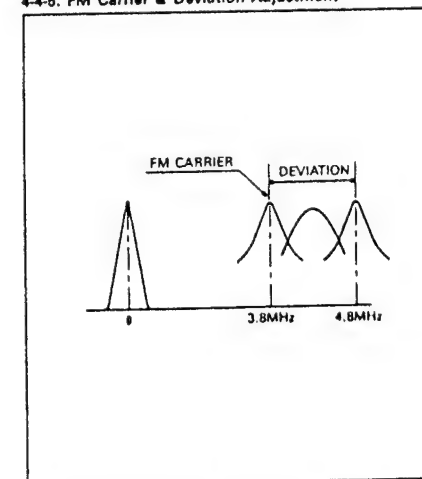


Fig. 10 FM Carrier & Deviation Adjustment

Equipment: Tracking Scope
 Test Point: TP0310 (FM Output) PRE AMP
 Adjust: VR3303 (FM Carrier) Main. B
 VR3304 (Deviation) Main. B

This adjustment sets the frequencies of the FM Carrier and Deviation.

If the Deviation is less than 1MHz, the Video output level is low. When the Deviation is more than 1MHz, the output level is high and there is the Overmodulation. So the screen has the White/Dark Trigger and the S/N ratio is not good.

- 1) Apply a 100% White signal to the video input jack on the rear panel.
- 2) Rotate the input selected S/W to AUX.
- 3) Connect a Tracking Scope to TP0310.
- 4) Insert a blank tape and make a recording.
- 5) Adjust the FM Carrier Control (VR3303) so that the frequency is 3.8MHz \pm 0.1MHz.
- 6) And then adjust the Deviation Control (VR3304) so that the frequency is 4.8MHz \pm 0.1MHz for the 1MHz deviation. (See Fig. 10).

4-4-6. REC FM Current Level Adjustment

Equipment: Oscilloscope
 Test Point: TP0310 PRE AMP
 Adjustment: VR3307 Main. B

- 1) Apply a PAL color bar signal to the video input jack to the rear panel.
- 2) Rotate the input selected S/W to AUX.
- 3) Connect a channel-1 scope probe (1V/div. 20mS/Div) to TP0310.
- 4) Insert a blank tape and make a recording.
- 5) Adjust the FM current control VR3307 so that the current is 5Vp-p.

4-4-7. SECAM Detector Adjustment

Equipment: Oscilloscope
 Test Point: TP3501 Main. B
 Adjustment: VR3501 Main. B

- 1) Apply a SECAM signal to the video input jack to the rear panel.
- 2) Rotate the input selected S/W to AUX.
- 3) Connect a channel-1 scope probe (1V/Div) to TP3501
- 4) Insert a blank tape and make a recording.
- 5) Adjust the output to 5Vp-p.

4-5. TUNER/DEMODULATOR SECTION in Main A PCB.

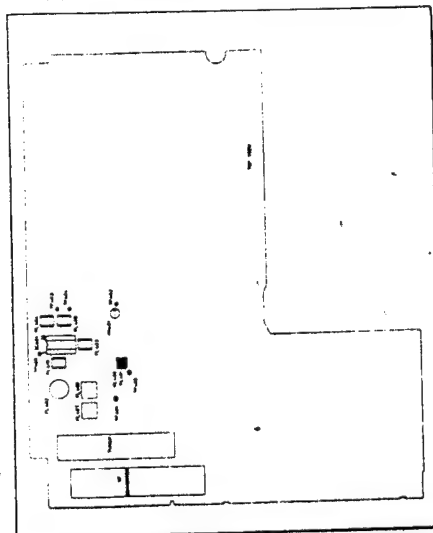


Fig. 11 TUNER/DEMODULATOR SECTION in Main. A PCB-Component Side

4-5-1. TRAP Adjustment

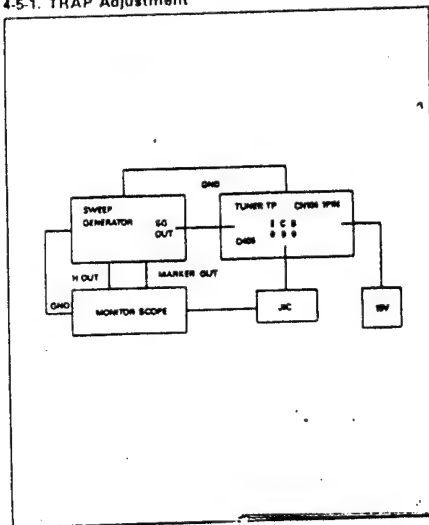


Fig. 12 Composition for TRAP Adjustment.

Equipment: Sweep Generator
Test points: Tuner Q406 collector
Adjustment: FL408, FL407

- 1) Place the instrument in the E-E Mode.
- 2) Remove a connector CN101 and connect a DC bias supply of 15V to the pin 1 of a connector CN104 on the Main. A PCB.
- 3) Connect the Sweep Generator Output to tuner TP within the Tuner unit. (Fig. 12)
- 4) Connect a jig input to the collector of Q406
- 5) Adjust the trap (FL408, FL407) in the Tuner unit shown in Fig. 13.

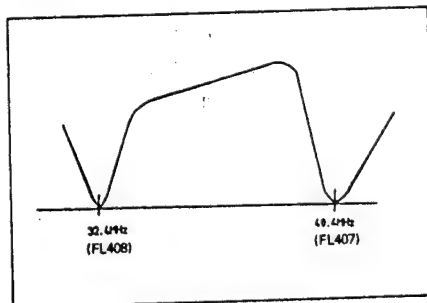


Fig. 13 Trap Adjustment

4-5-2. VIF Adjustment

Equipment: Sweep Generator
Monitor
Test Point: TP406 (Video OUTPUT) Main. A
Adjust: FL405 (VIF-DET TANK) Main. A

- 1) Place the instrument in the E-E mode.
- 2) Remove a connector CN101 and connect a DC bias supply of 15V to the pin 1 of a connector CN104 on the Main. A PCB.
- 3) Connect a DC bias supply of 5V to TP406.
- 4) Connect the Sweep Generator Output to tuner TP within the Tuner unit. (Fig. 14)
- 5) Connect a Monitor Scope input to TP406.
- 6) Connect a 100 Ω damping resistor between TP403 and TP404.
- 7) Adjust the Cors (FL410) in the Tuner Section shown in Fig. 15
- 8) Remove a 100 Ω damping resistor.
- 9) Adjust the VIF Control (FL405) for maximum detection of 38.9MHz marker. (Fig. 16)

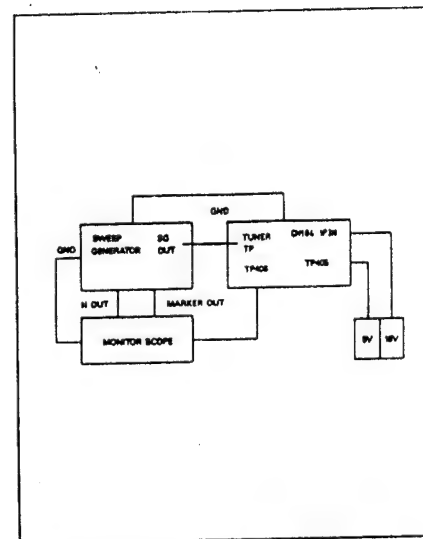


Fig. 14 Composition for VIF Adjustment

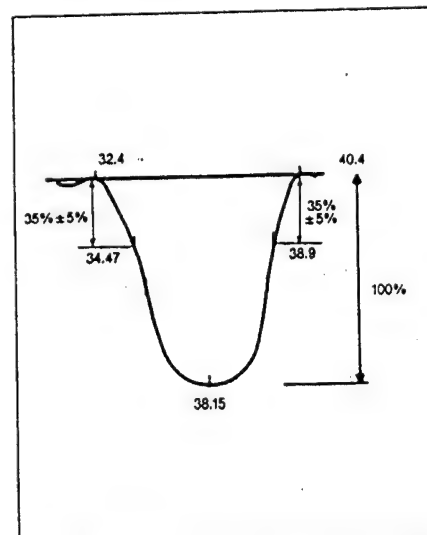


Fig. 15 Illustration for balance between 38.9 MHz and color signal

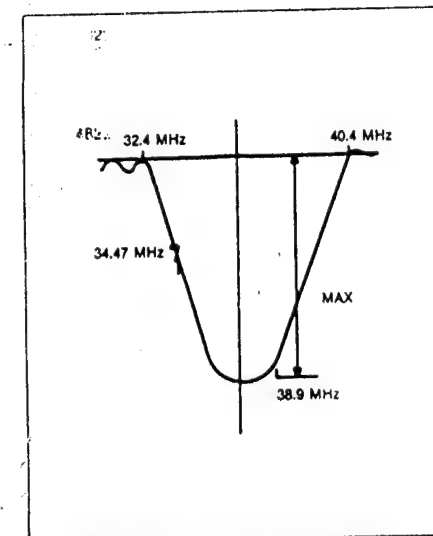


Fig. 16 VIF 38.9MHz Maximum Detection

4-5-3. AFT Adjustment

Equipment: Sweep generator, Monitorscope
Test point: TP402 Main. A
Adjustment: FL404 Main. A

- 1) After adjustment of VIF, connect the monitorscope input to TP402.
- 2) Adjust the AFT (FL404) in the Tuner unit shown in Fig. 17

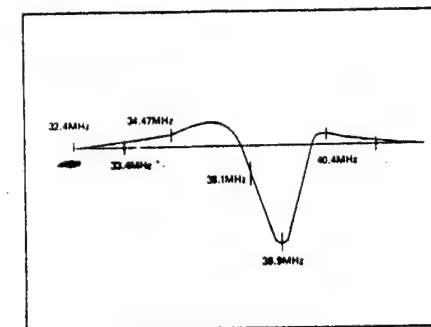


Fig. 17 AFT Adjustment

4-5-4. SIF Adjustment

Equipment: Oscilloscope

Test points: TP0501 (Audio Input)

Main. B

Adjust: FL403 (5.5MHz Tuning Coil)

Main. A

This adjustment suppresses the audio distortion and optimizes the linearity response of audio. Misadjustment of the SIF may cause the audio buzz by the increasing of the THD (Total Harmonic Distortion).

- 1) Apply a 1KHz audio signal to the RF Input Terminal on the rear panel.
- 2) Connect a channel-1 scope probe (0.2V/div.) to TP0501.
- 3) Adjust the SIF Control (FL403) for 1.0Vp-p.

4-5-5. RF AGC Adjustment

Equipment: TV CHANNEL SIGNAL GENERATOR

Oscilloscope or DC Voltmeter

Test Point: TP401 (Tuner RF AGC Input)

Main. A

Adjust: VR401 (RF AGC Control)

Main. A

This adjustment determines the point where the AGC is activated.

- 1) Apply a PAL color bar signal to the Video Input Terminal of the TV Channel Signal Generator. (Fig. 18)
- 2) Set the Channel Selector to CH2 (52.25 MHz)
- 3) Apply the Output of the Generator to the RF IN Terminal on the rear panel. Using the Attenuator, adjust the input signal level for 70dB μ measured at the RF IN Terminal. (Fig. 18)
- 4) Connect a channel-1 scope probe (1V/div.) to TP401.
- 5) Turn the VCR power on and select TV Mode with SW718.
- 6) Set the channel on the front panel to CH 2.
- 7) Adjust the RF AGC Control (VR401) for 4.7V \pm 0.1V.
- 8) After adjusting the input level of the RF IN terminal for 70dB μ check the condition of screen. If there is some Noise, adjust VR401 so that the Noise disappears.

- 9) And adjust the input level of the RF IN Terminal for 100dB μ , then check the condition of screen. If there are some Saturations (unstable picture or color, etc), adjust VR401 again so that the Saturation phenomena disappear.

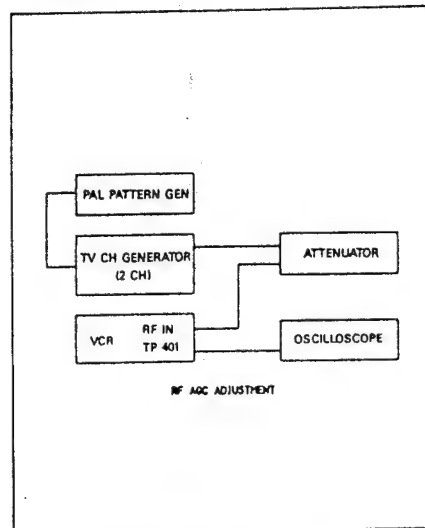
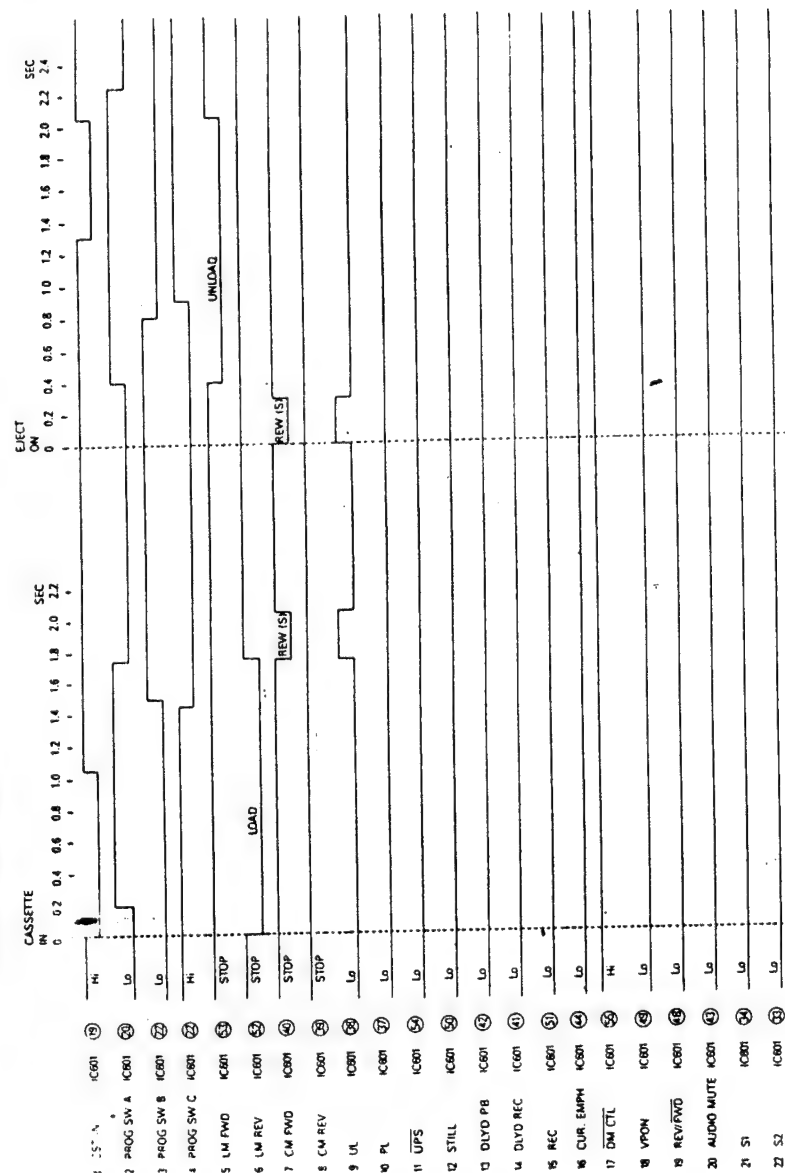


Fig. 18 RF AGC Adjustment

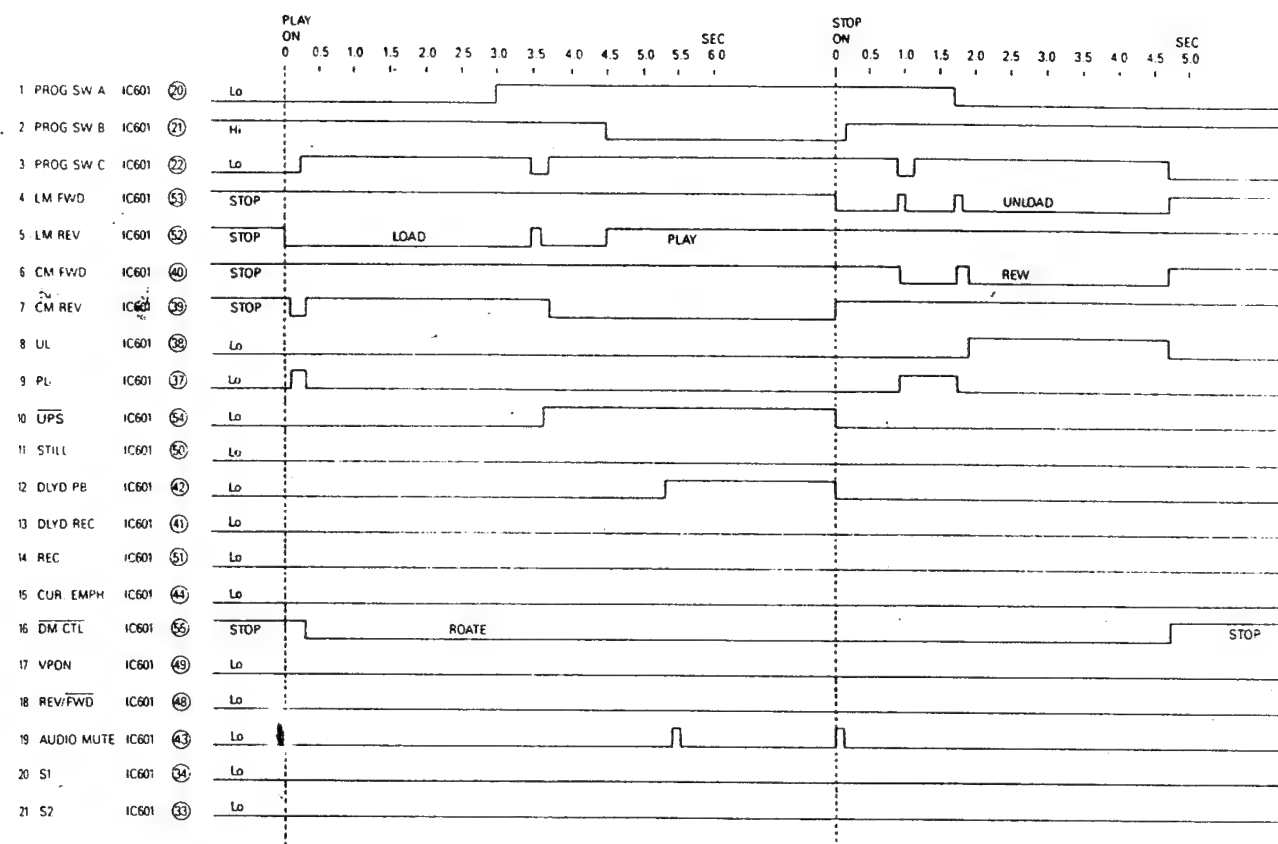
5. TIMING CHART/TROUBLESHOOTING GUIDER

5-1. Timing chart

5-1-1. CASSETTE LOAD/UNLOAD

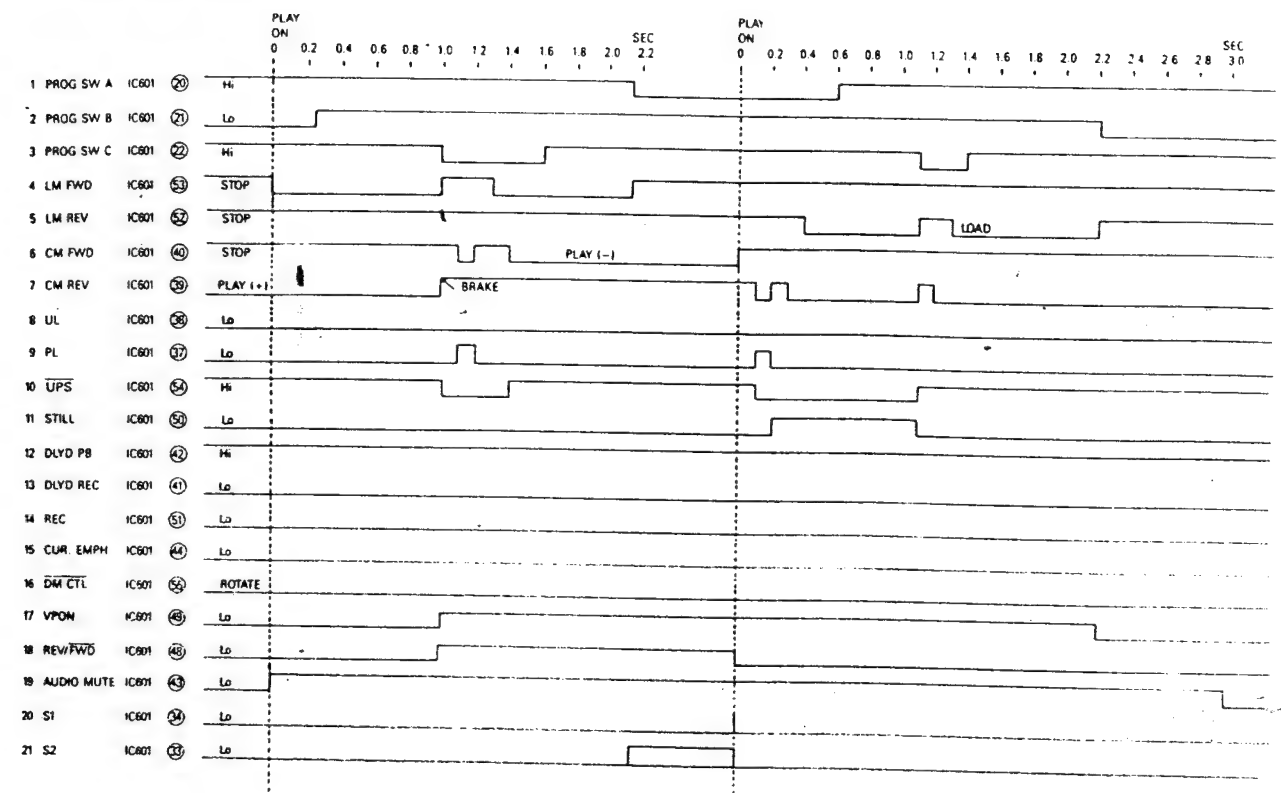


5-1.2. STOP/PLAY/STOP



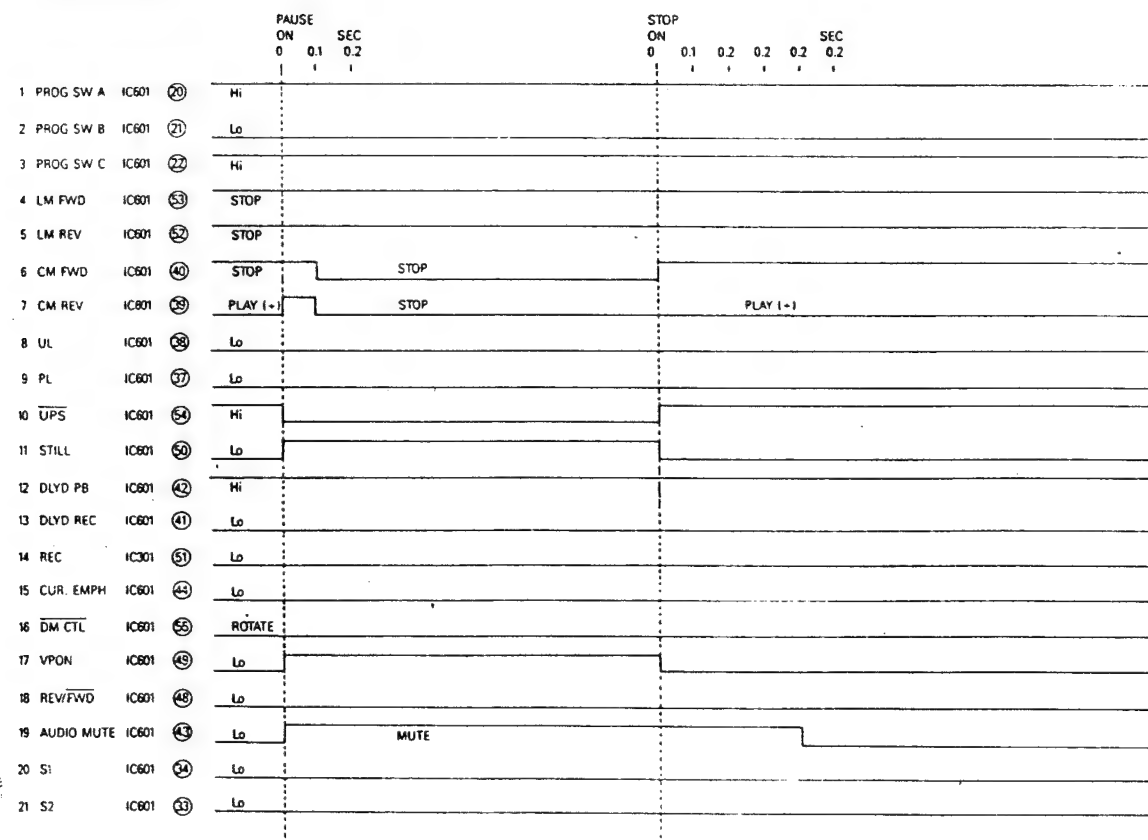
5-2

5-1.4. PLAY/R. SEARCH/PLAY

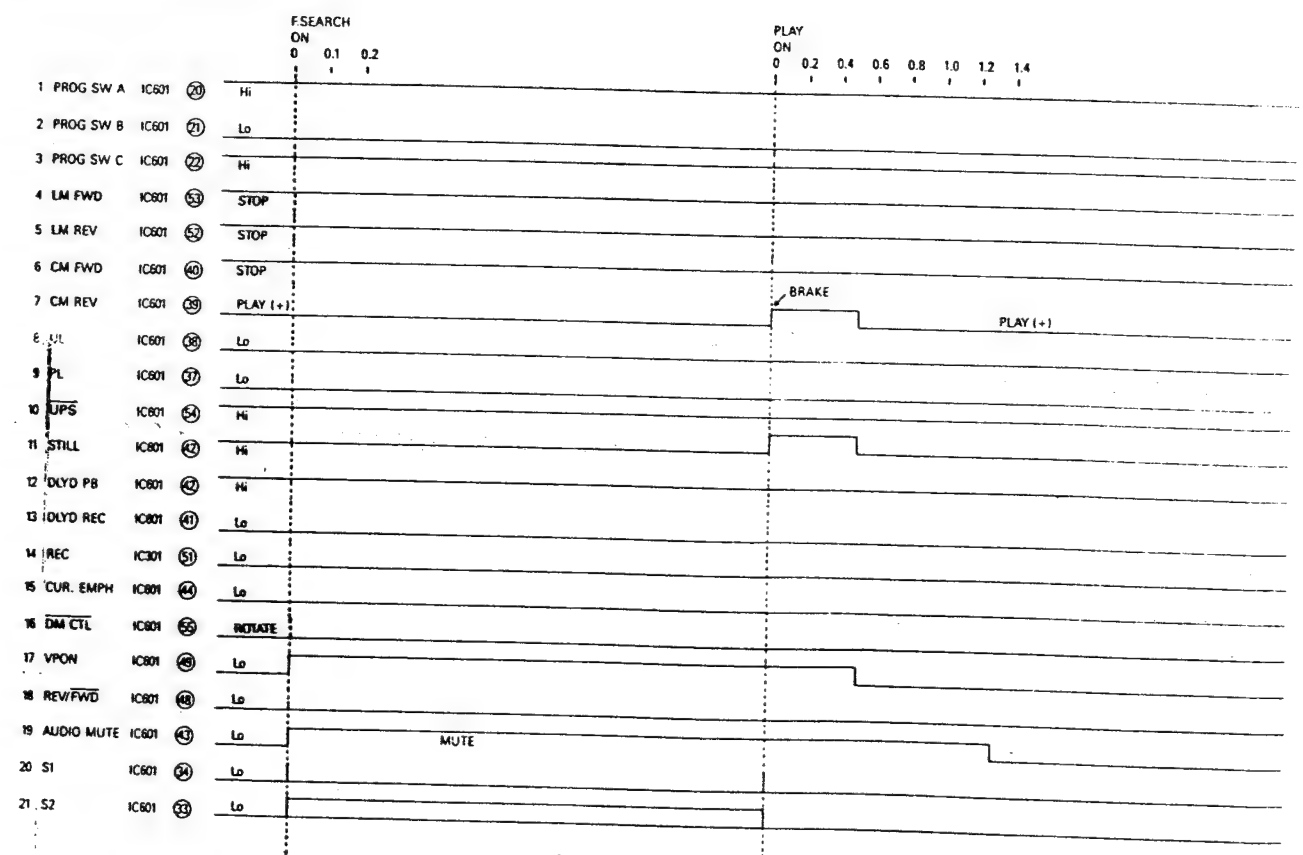


5-4

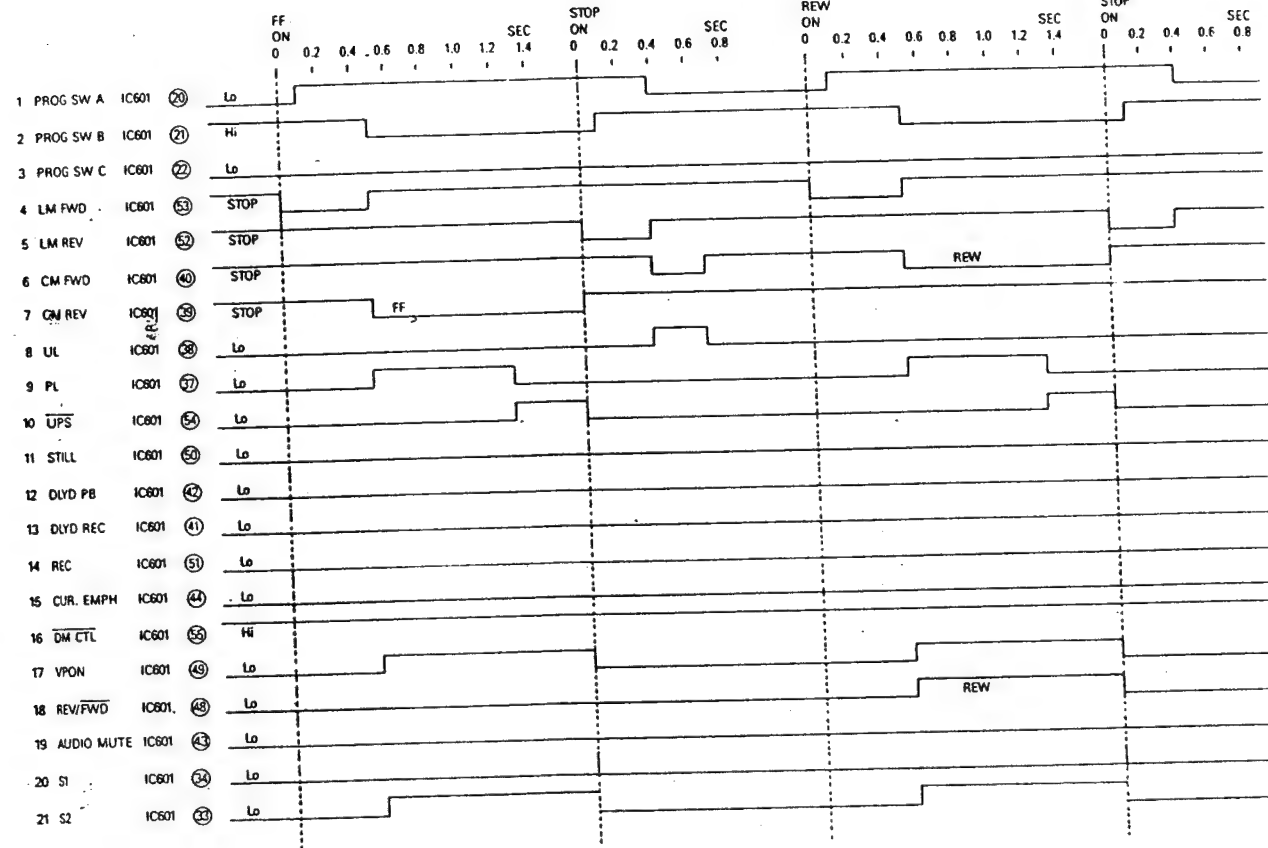
5-1.3. PLAY/PAUSE/PLAY



5-1.5. PLAY/F. SEARCH/PLAY

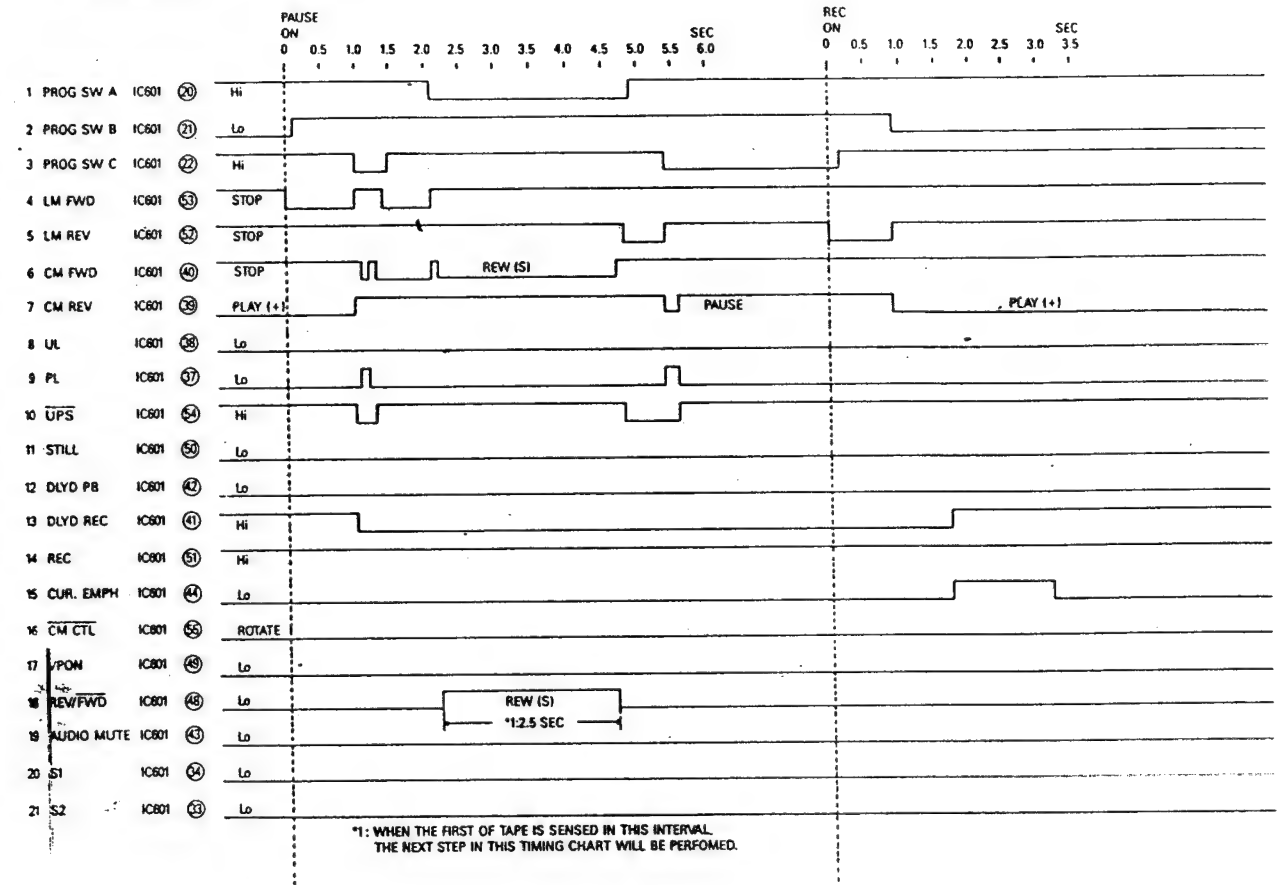


5-1.6. STOP/FF. OR REW/STOP



5-6

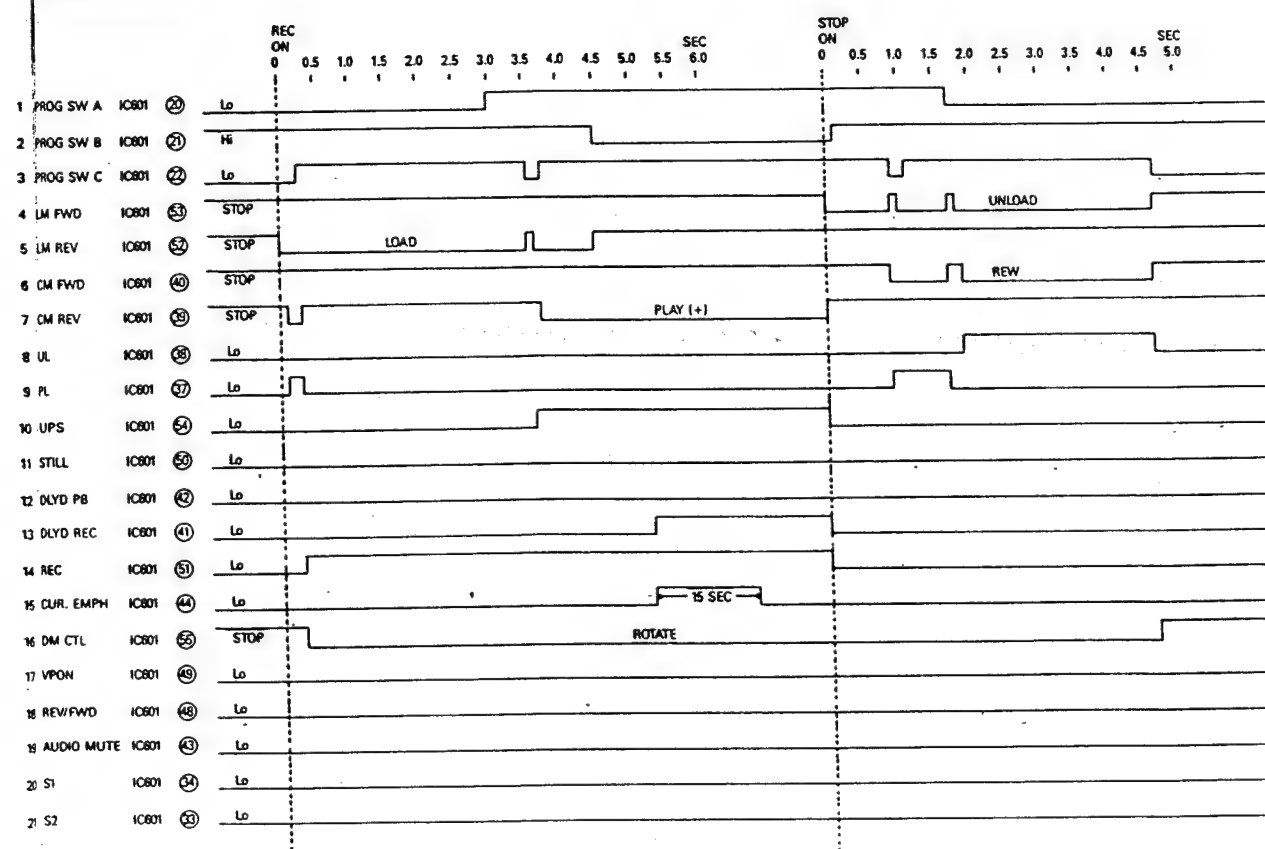
5-1.8. REC/PAUSE/REC



*1: WHEN THE FIRST OF TAPE IS SENSED IN THIS INTERVAL, THE NEXT STEP IN THIS TIMING CHART WILL BE PERFORMED.

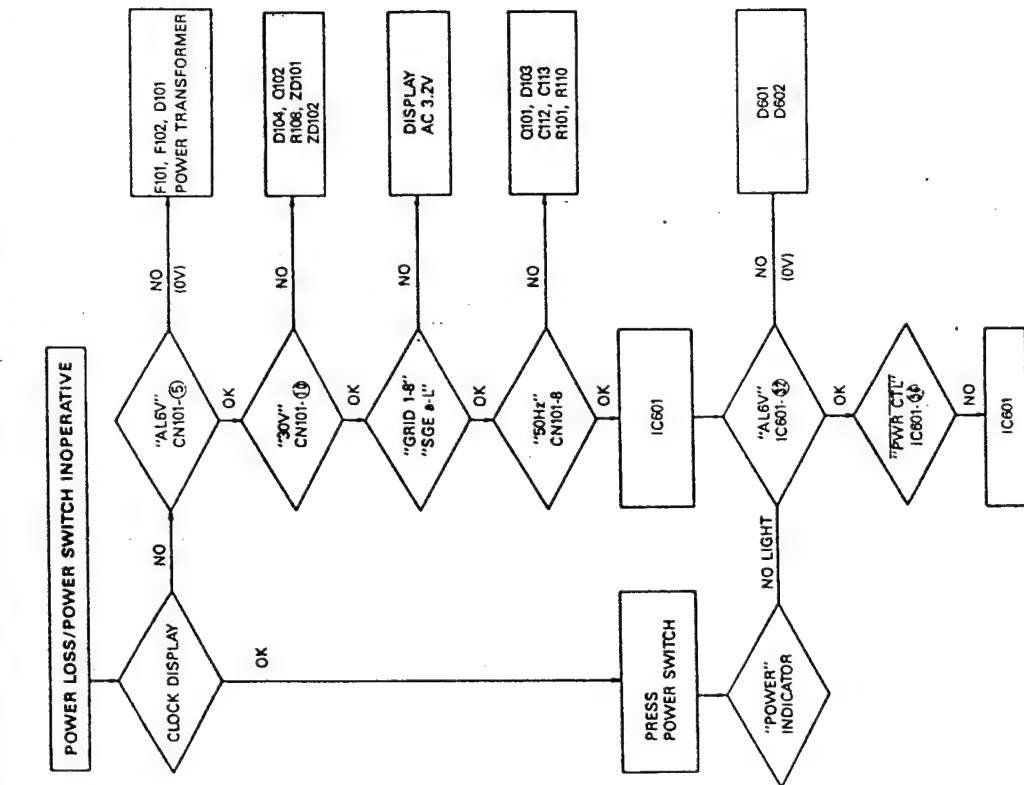
5-8

5-1.7. STOP/REC/STOP



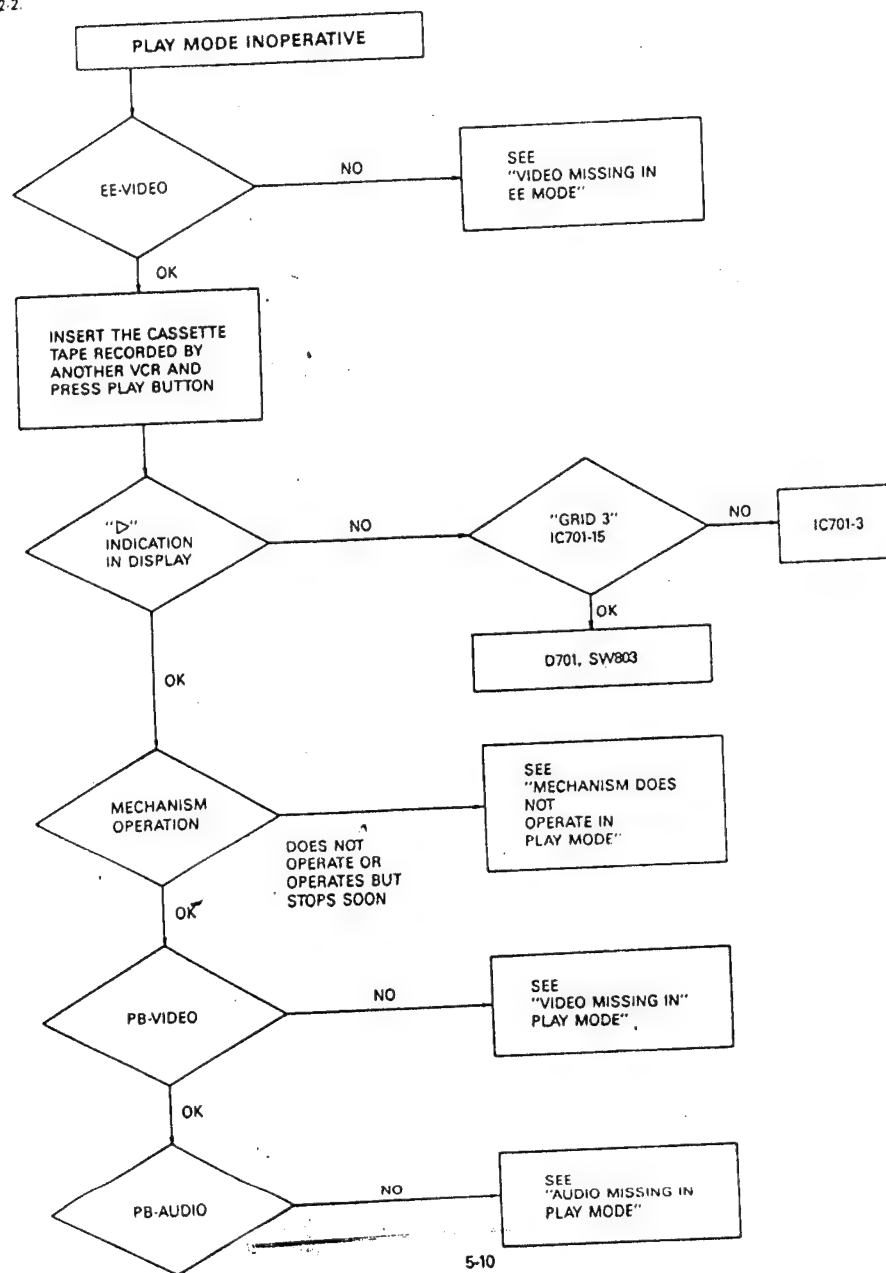
5-7

5-2. Troubleshooting Guides (Refer to Voltage Chart and Wave Form of Schematics)

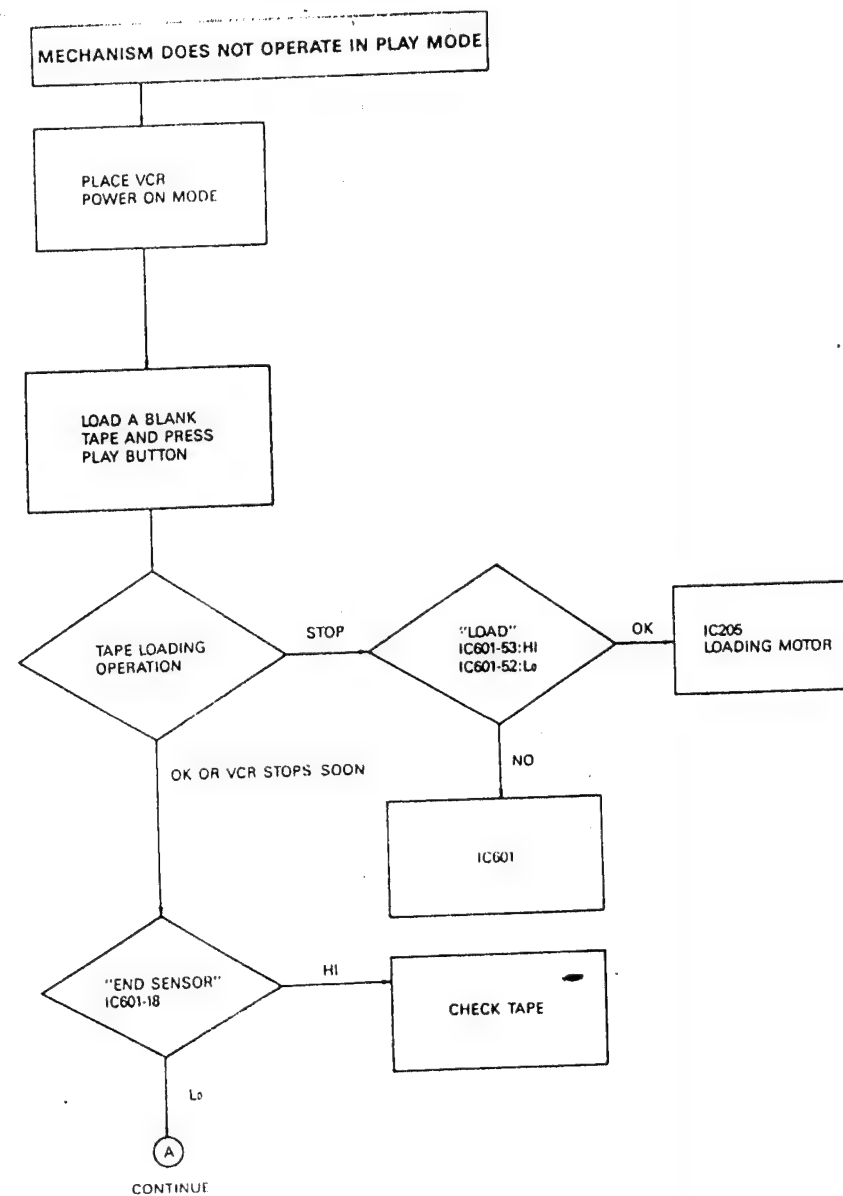


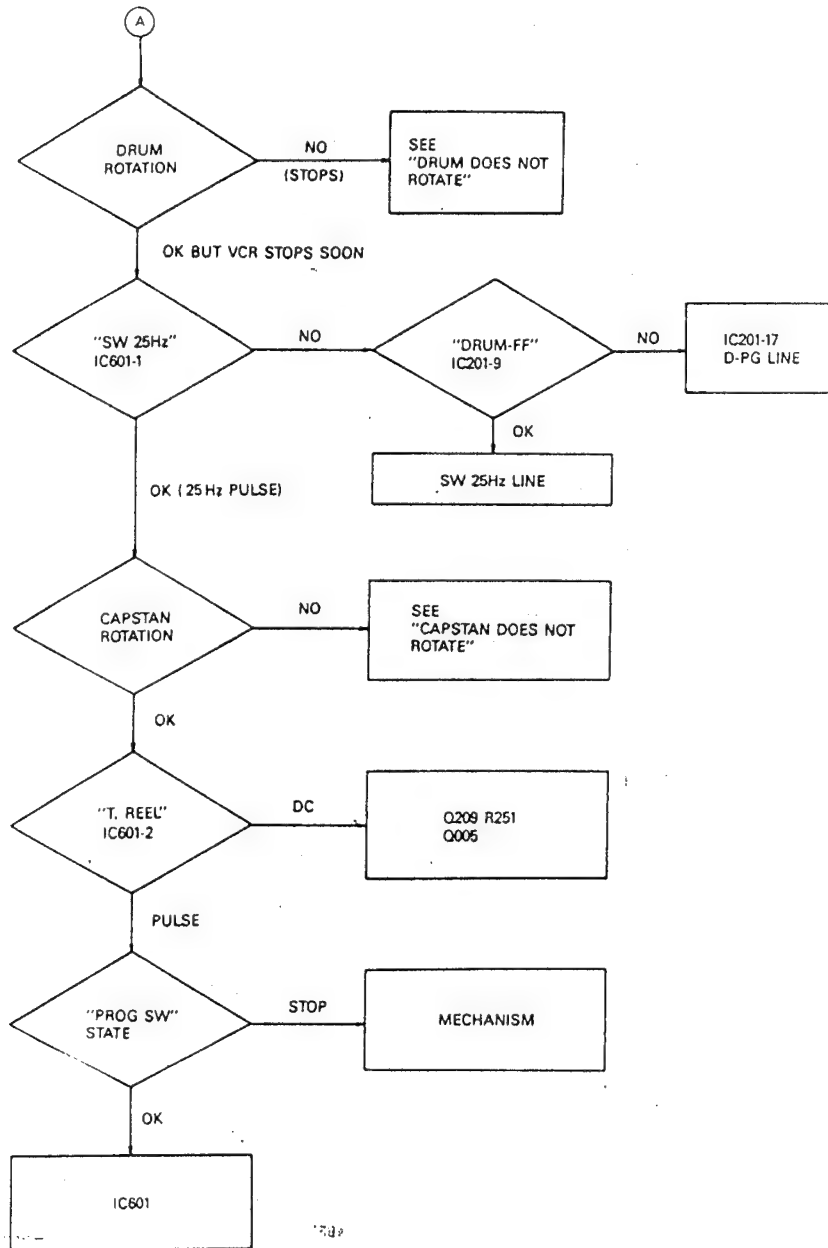
5-2.1

5-2-2.

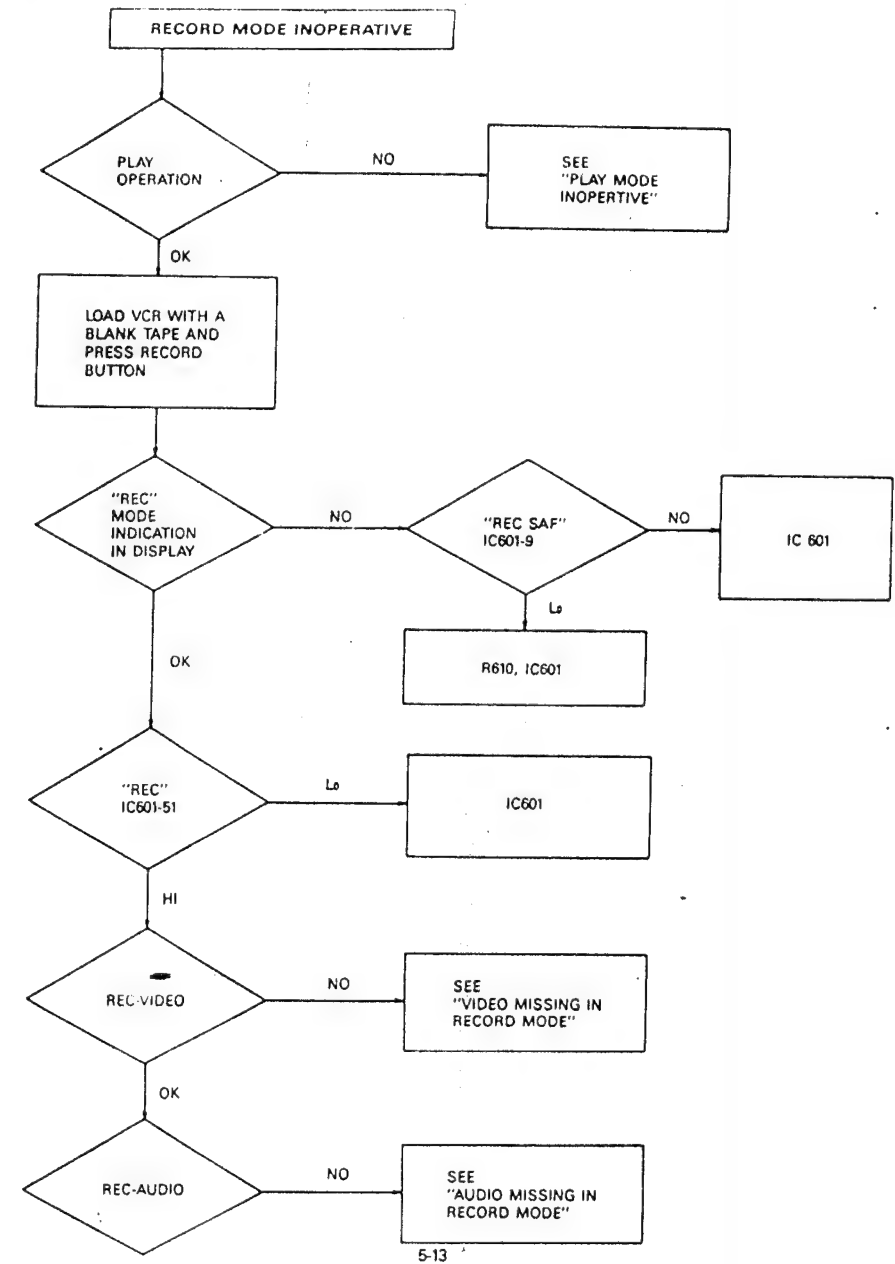


5-2-3

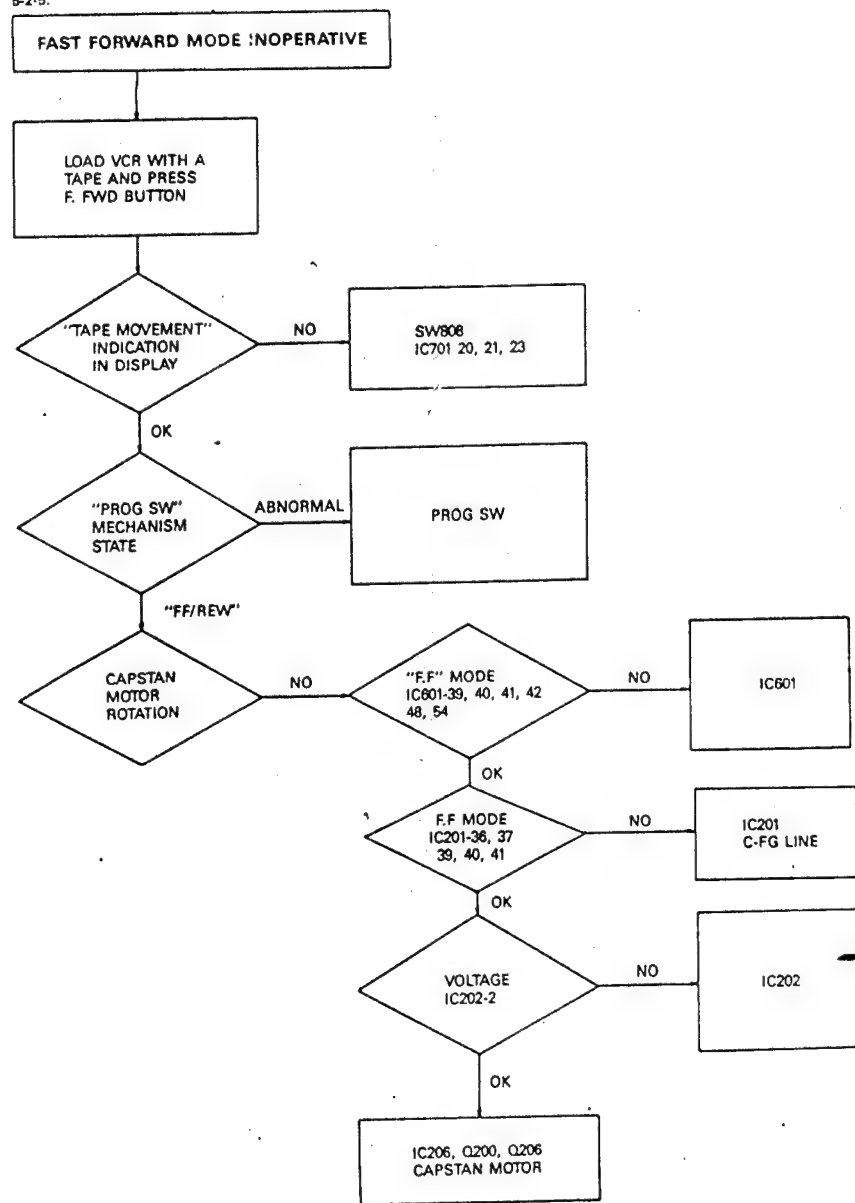




5-24.

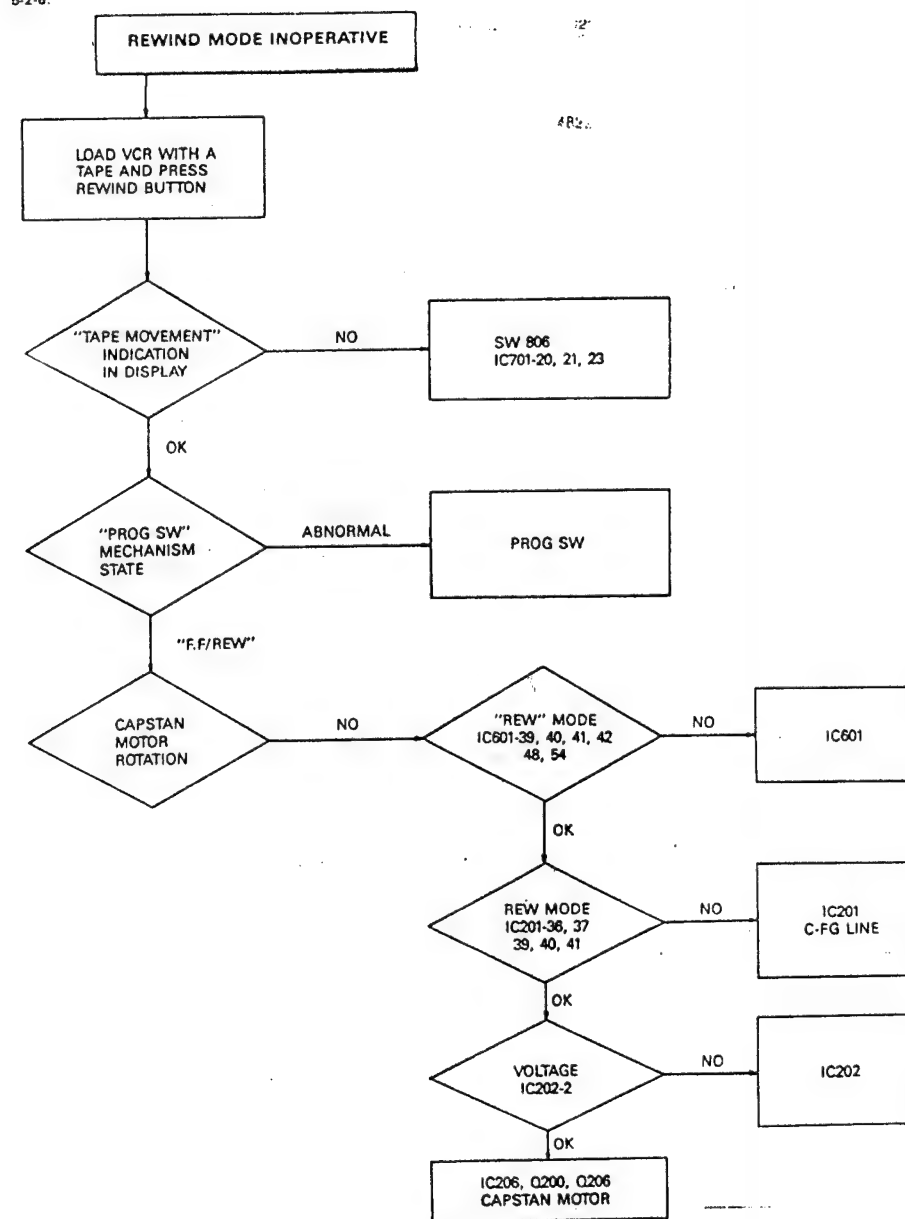


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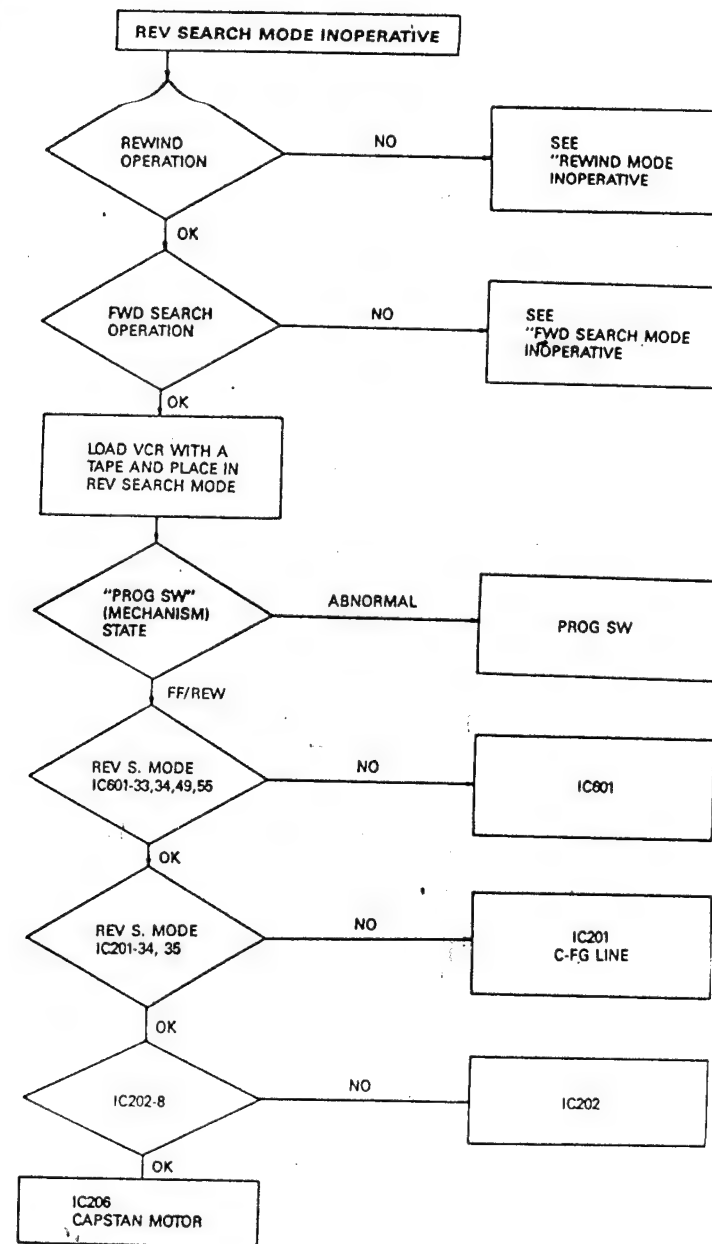
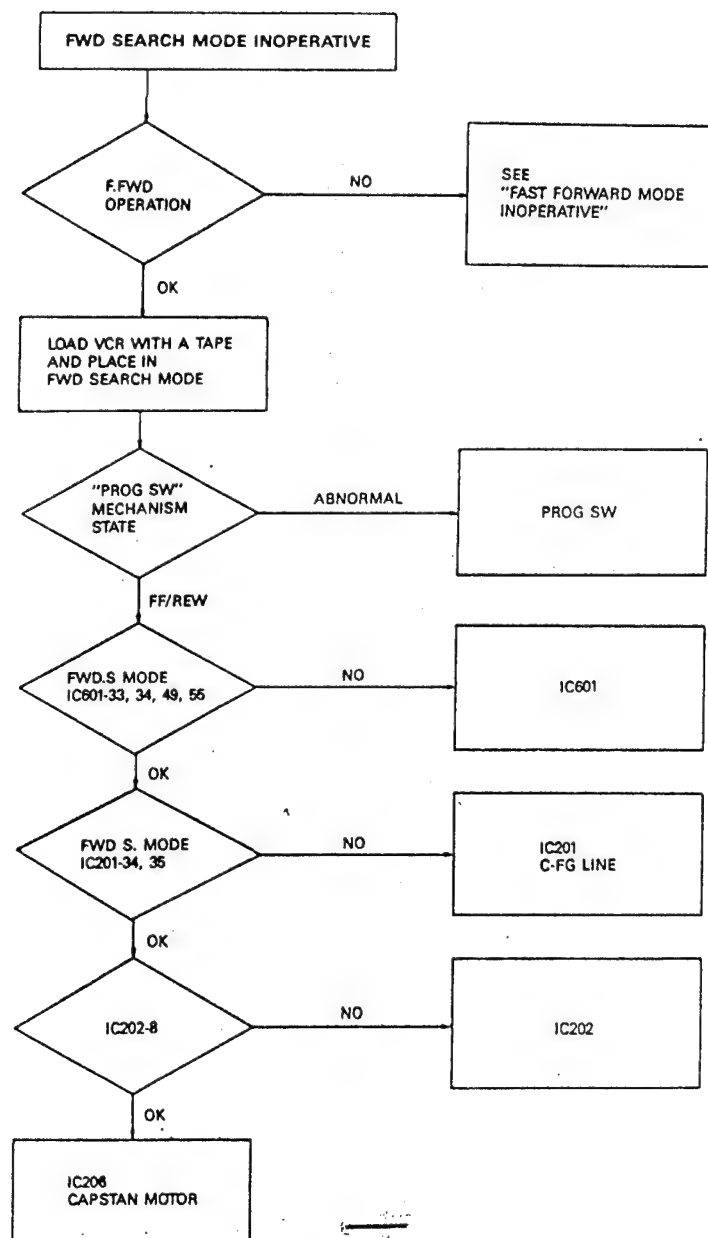


5-14

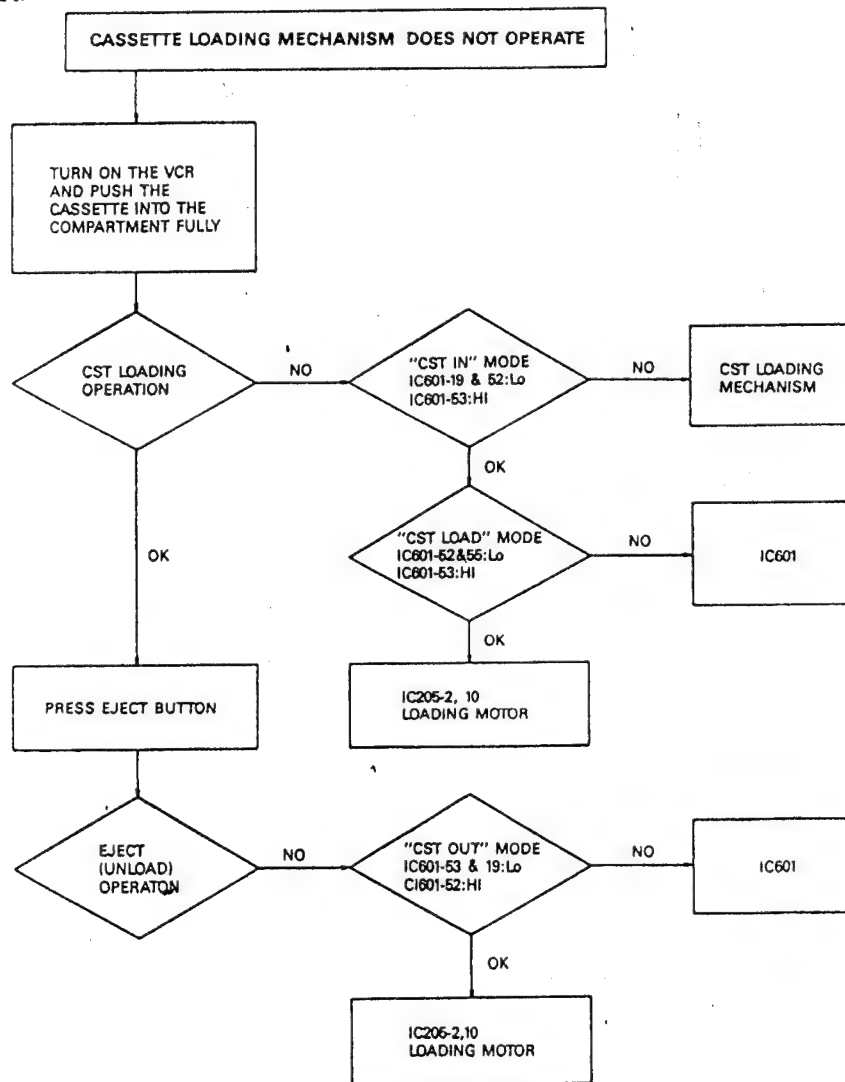
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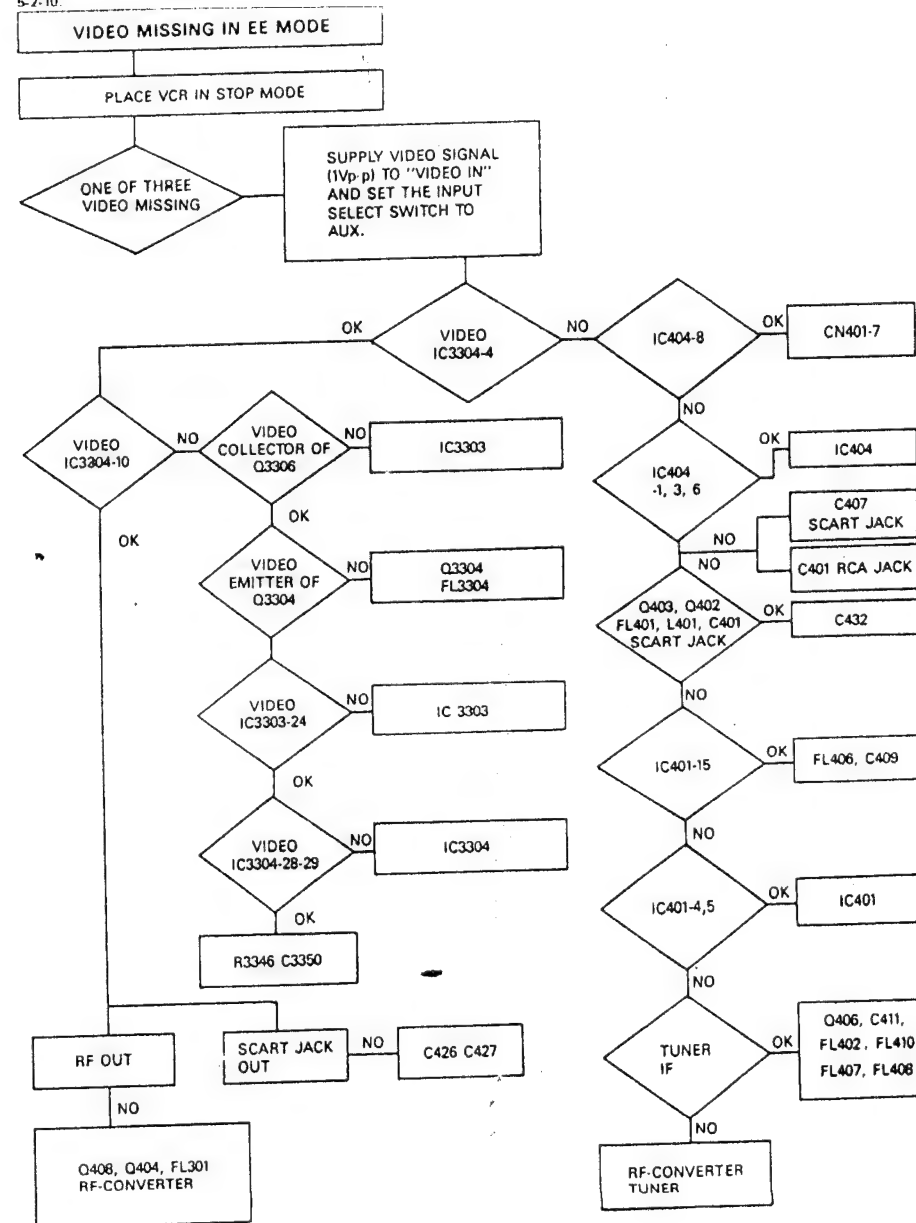


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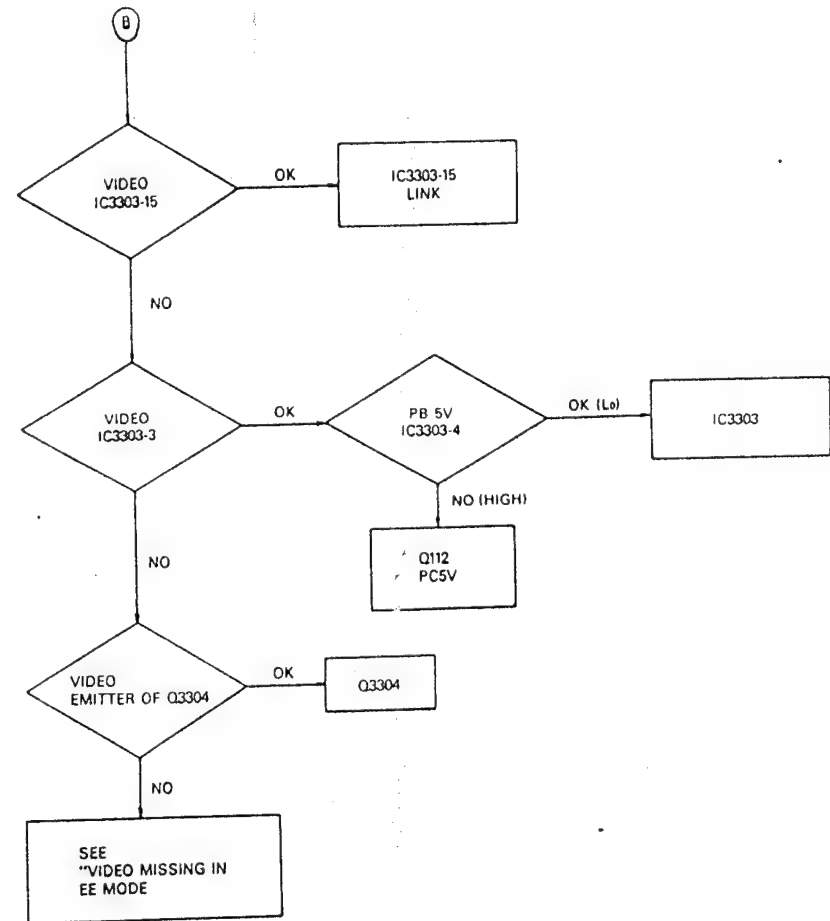
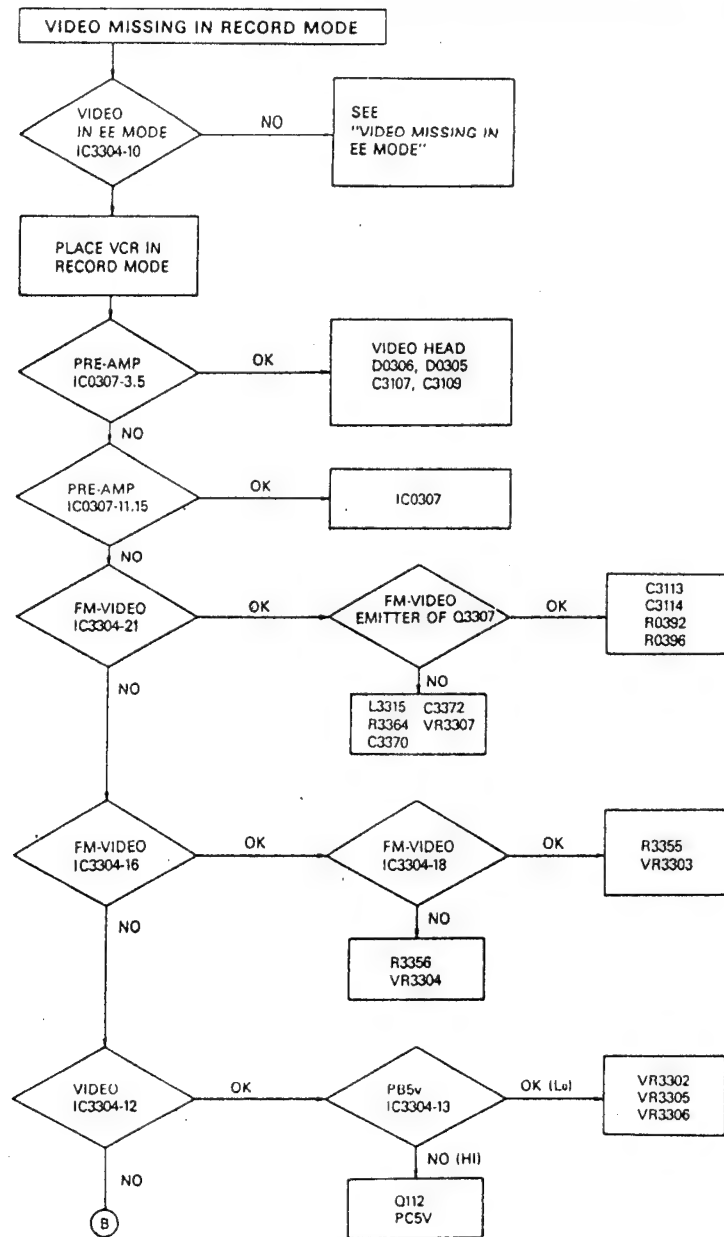


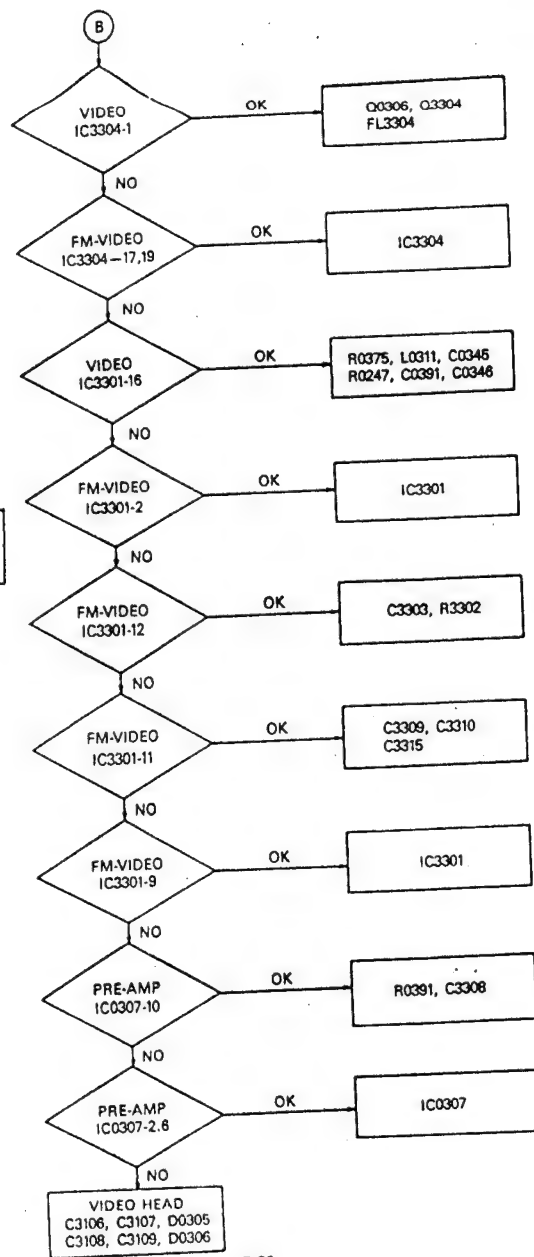
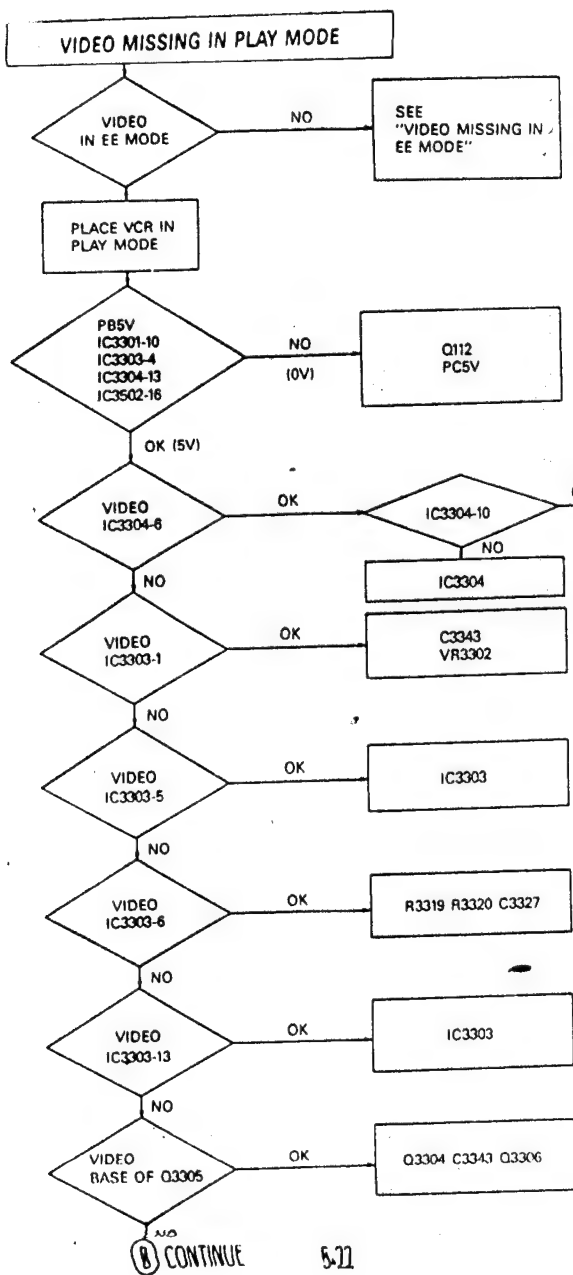
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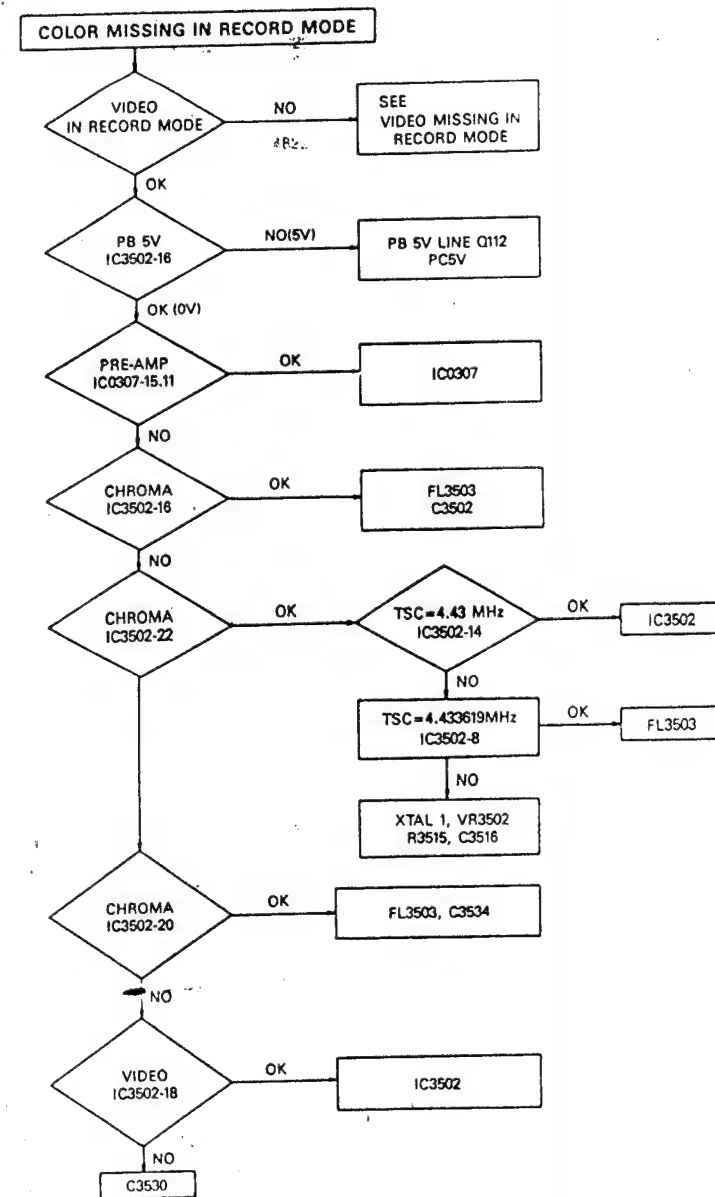


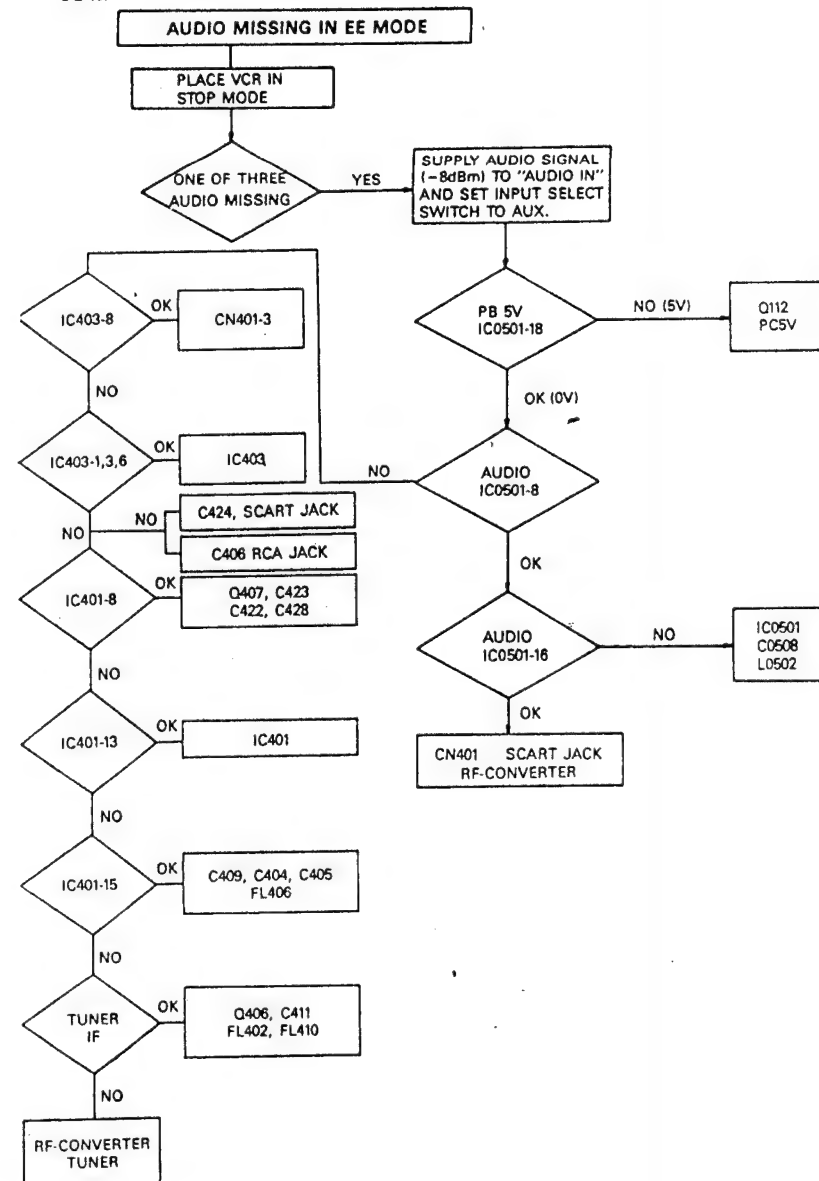
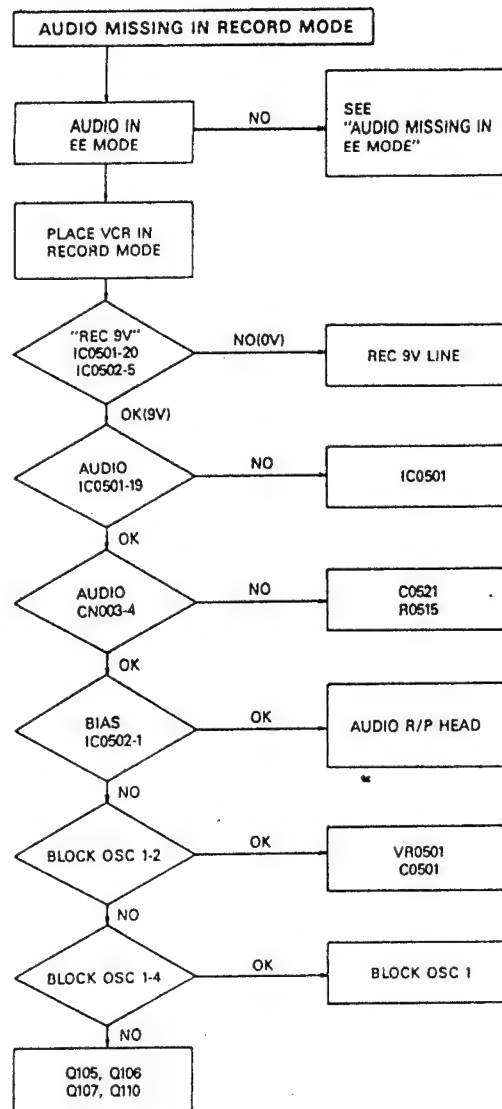
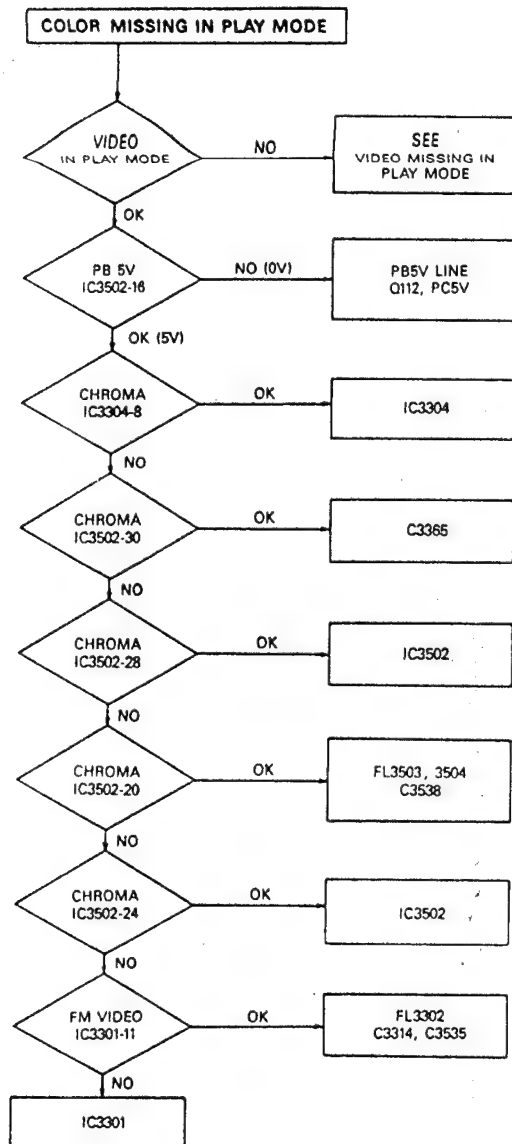
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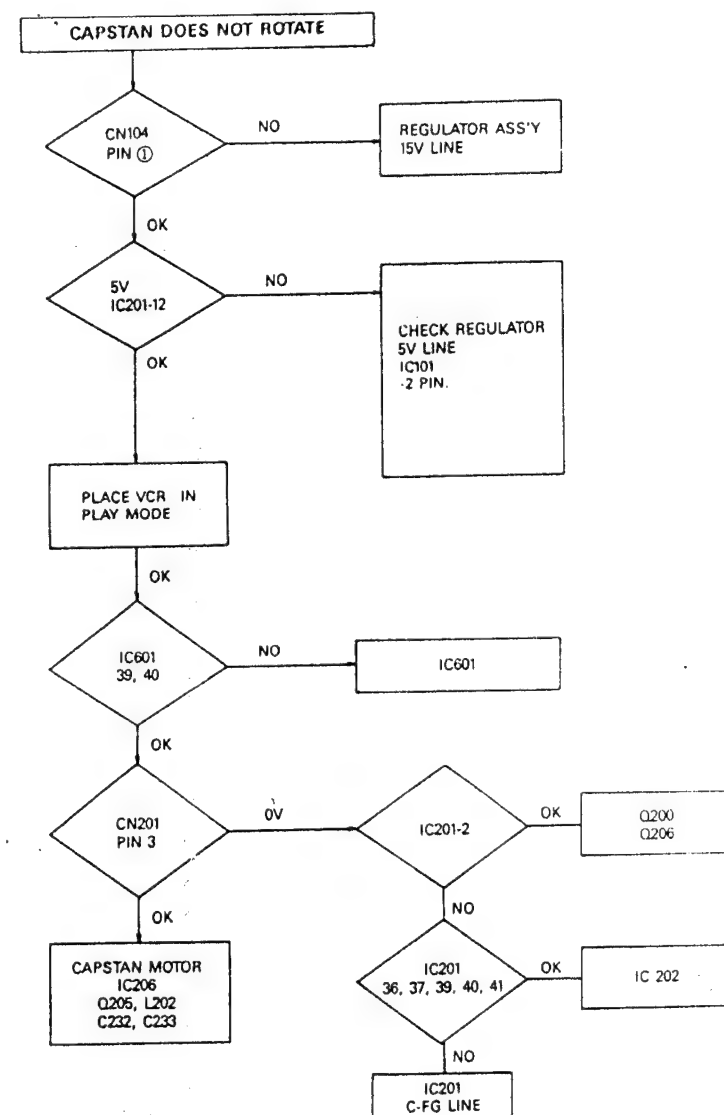
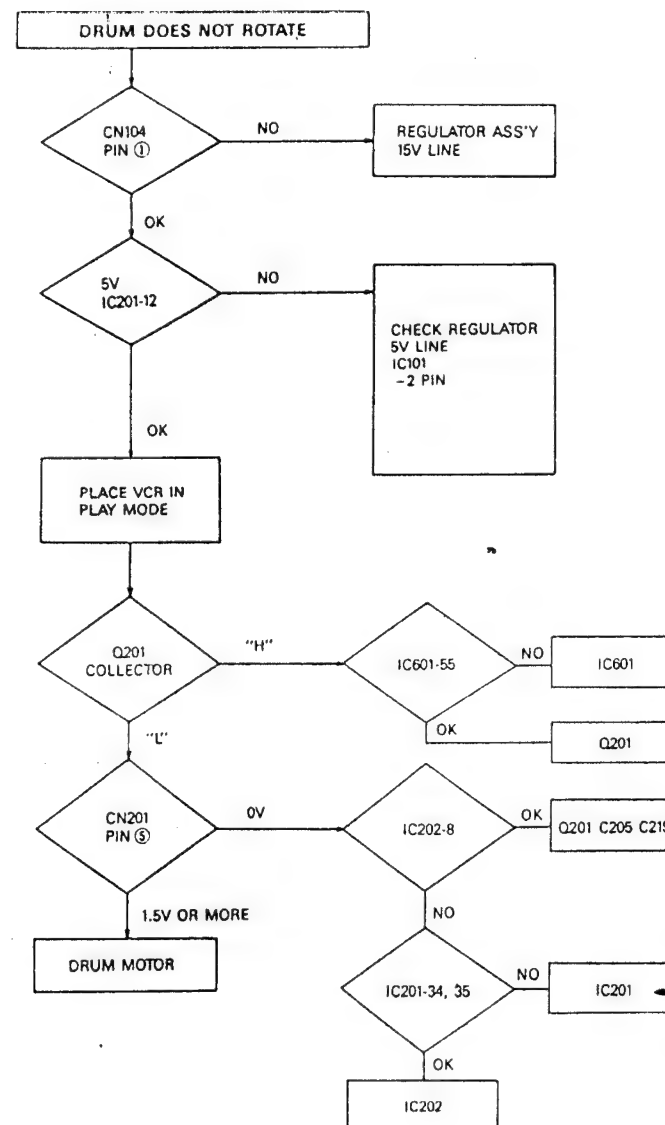
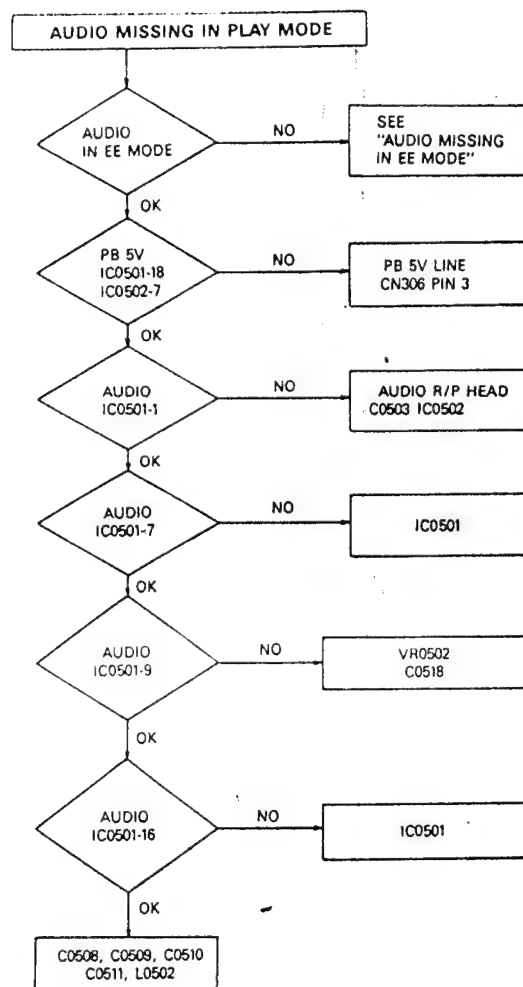




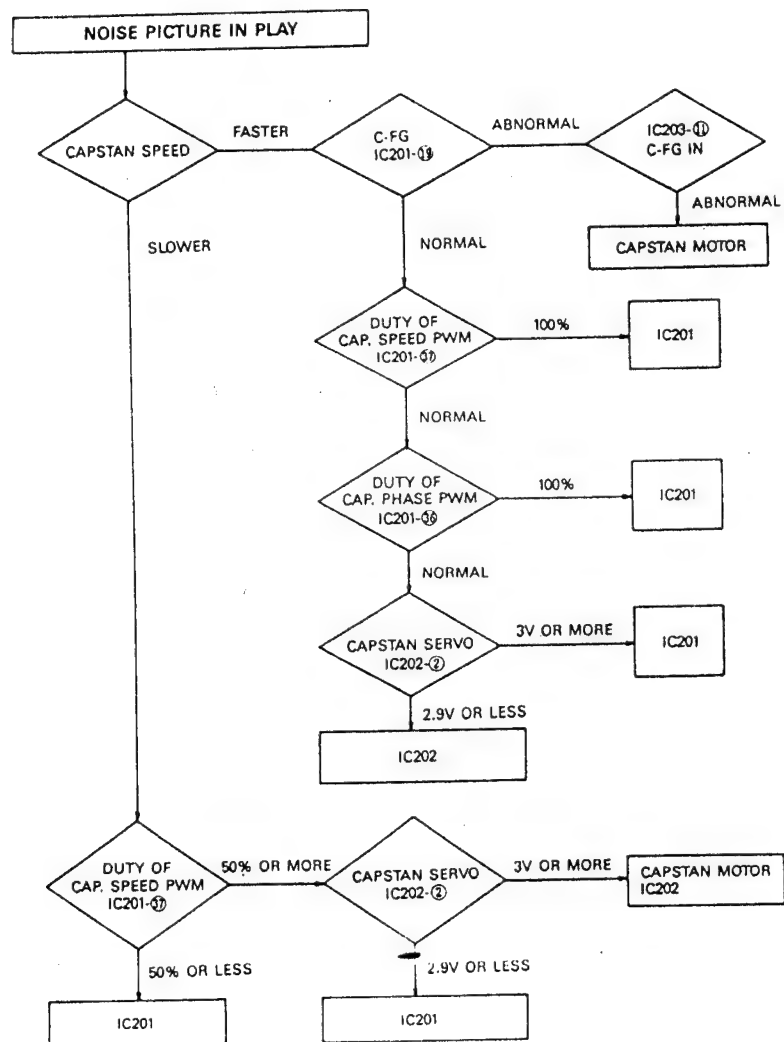
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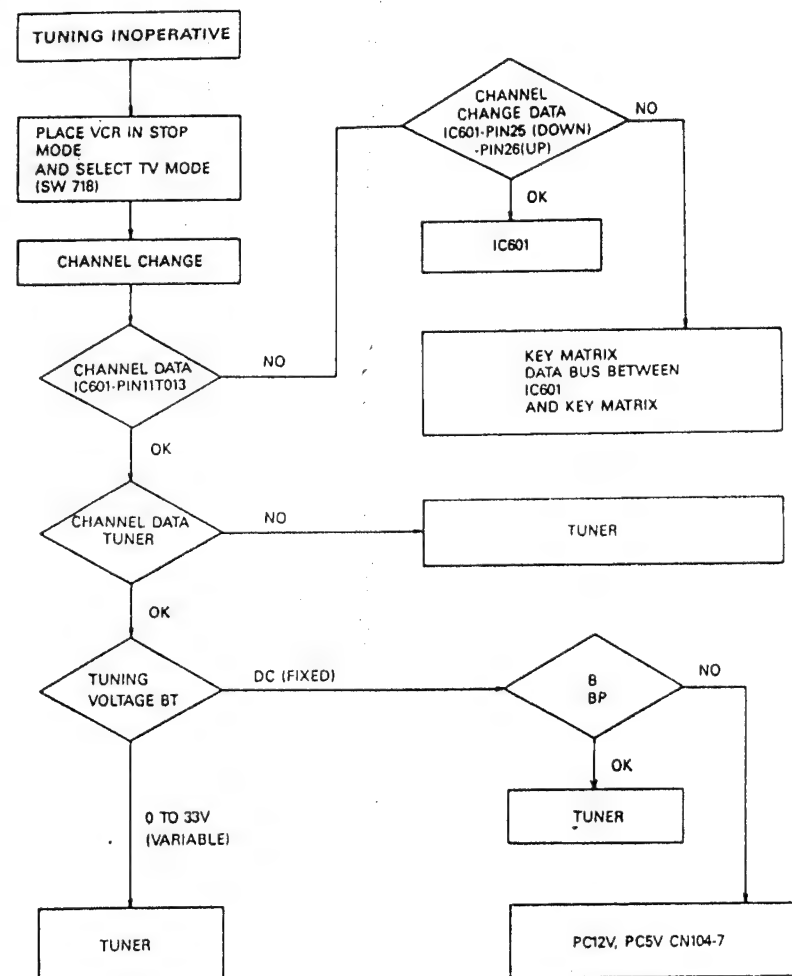


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6. REPLACEMENT PARTS LIST

6-1. MECHANICAL REPLACEMENT PARTS LIST

LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
Instrument Assembly					231	66674-710-10	SPRING A/C HEAD	SUC WPA	
1	69000-173-034	ASSY PANEL FRONT	VCR 750		232	67094-701-410	SCREW-A/C HEAD	SUM 32 P15	
2	67601-603-290	PANEL FRONT	ABS 940V6 (VCR 750)		233	69000-270-061	ASSY-FIE HEAD	DINR	
12	67623-608-110	KNOB-CHANNEL	ABS 94HB		236	66674-611-210	SPRING FIE HEAD	SUS304-WPB	
16	67623-612-510	KNOB-FUNCTION	ABS 94HB (VX-713C)		237	66654-605-010	BUSH ROLLER SUPPLY	C3602 BD	
18	67624-617-370	KNOB-PLAY	ABS 94HB (VX-713C)		238	65165-700-410	FLANGE UPPER	CERAMIC	
19	67624-617-250	KNOB-POWER	ABS 94HB (VCR 750)		239	65224-703-220	ROLLER SUPPLY	POM	
31	67624-617-102	SWITCH-SLIDE	KSA 23A04T0023002		240	65224-703-510	INNER SUPPLY	C3604BD	
32	67624-617-510	KNOB-TIMER	ABS 94HB		241	67206-213-001	NUT-HEX	2-H3x0.5 FE FZY	
50	67624-601-013	DOOR-FRONT	ABS 94HB (VCR 750)		242	66114-600-310	BRKT-JOINT PCB	SPG T1.2	
54	66123-600-310	PLATE-DOOR	SPO T0.8		244	66674-613-110	SPRING IB SLIDE	SUS 304-WPB	
122	63005-005-958	PWB REGULATOR	XPC-FR-1 (G-7) PAL		248	65264-601-111	PINCH ROLLER ASSY	TCR-65	
130	66020-600-720	FRAME	HIPS 34V0 BLK		247	65253-609-120	PINCH ROLLER ARM ASSY	SECC+SUM	
131	66612-600-510	BOTTOM-COVER	SPO T0.5		248	66674-611-710	SPRING PINCH ROLLER	SUS304-WPB	
132	66074-600-110	LEG	CRM 40-70 860-30 (BLK)		249	65254-606-320	BRAKE MAIN (R) ASSY	DURANEX+SUS 420J	
134	66462-602-810	CONNECTOR-BOARD	ABS 94HB (VX-713C)		250	65254-606-420	BRAKE MAIN (L) ASSY	DURANEX+SUS 402J	
135	63344-010-050	HOLDER-JACK	G-7W		251	66674-611-910	SPRING MAIN BRAKE	SUS 304-WPB	
136	63005-006-348	PWB MAIN B	NEW 1.8x1.22x252		252	65254-606-720	BRAKE SUB (R) ASSY	DURANEX+SUS 420J	
137	63005-006-013	PWB MAIN A	NEW 1.8x1.24x296 PAL7		254	65254-606-810	BRAKE SUB (L) ASSY	DURANEX+SUS 402J	
138	66054-607-210	COVER MAIN B	PVC SHEET 94V0 T0.45		255	66674-612-110	SPRING SUB BRAKE (L)	SUS304-WPB	
140	66674-611-110	SPRING-EARTH	SUS-304 T0.3		264	66604-623-310	HEAD SINKA	A20179	
142	66634-601-210	CLAMPER-WIRE	NYLON BLK		265	66604-623-420	HEAD SINK-B	A20179 FLAT	
143	64543-603-410	SHIELD CASE TOP	SPTE T0.25 (G-7W PAL)		278	69000-270-113	ASSY JOINT BOARD	G	
144	66614-612-810	BRKT PREAMP	SPO T1.0		403	66604-624-910	HOLDER TR ASSY	A20179 TSUS 304	
145	64543-603-110	SHIELD CASE BODY	SPTE T0.25 (G-7W PAL)		404	69000-370-013	ASSY DRUM MOTOR	G	
150	63005-006-358	PWB FUNCTION	TVI 1.8x78x187		420	66154-600-320	COVER UPPER DRUM	A1050RT0.5	
151	63005-006-358	PWB TIMER	TVI 1.8x147.5x247		450	66017-123-310	DRUM ASSY	D7PRIA-HC	
160	66064-606-310	HINGE MAIN B	NYLON B		451	69000-370-028	ASSY BASE DRUM	G	
162	66654-706-010	CIRCUIT BOARD SUP	PH-2458		452	69000-370-028	ASSY LOWER DRUM	D7PRIA-HC	
163	66002-601-010	TOP-CABINET	HISHI T0.9		453	69000-370-024	ASSY UPPER DRUM	D7PRIA-HC	
165	67304-600-110	WASHER-CUSHION	RUBBER T2.0		454	69000-270-101	ASSY-PRE AMP	D7-PR1	
181	67158-230-081	SCREW-TAP BH	2-3x8 FE FZY		901	67004-100-810	SCREW-PH	+M2.6x4 FE FZY	
182	67154-101-440	SCREW-TAP PWH	2-3x10 FE FZY		902	67004-100-710	SCREW-PH	+M3x4 FE FZY	
191	67158-240-121	SCREW-TAP BH	2-4x12 FE FZY		903	67098-130-054	SCREW-PH	M3x8 FE FZY	
194	67158-240-163	SCREW-TAP BH	2-4x16 FE FZY		904	67098-620-033	SET SCREW	M2x3 FE FZB	
198	67154-600-640	SCREW TAP	WASHER 2S 3x10 2N-Y		906	67098-130-061	SCREW-PH	+M3x8 FE FZY	
200	69017-150-310	FULL DECK ASSY	D7-NR2		907	67098-130-051	SCREW-PH	+M3x5 FE FZY	
238	63104-600-110	GROUND CAP	PBSS T0.5		907	67004-100-710	SCREW-PH	+M3x4 FE FZY	
278	69000-270-029	ASSY JOINT BOARD	G-7		909	66674-608-130	GROUND PLATE TOP	SUS430 T0.25	
454	69000-270-041	ASSY PRE AMP	D7-PR1		911	67008-130-051	SCREW-PH	+M3x5 FE FZY WL	
500	66122-700-492	HOUSING ASSY	FL SYSTEM (G-7 VCR)		912	67008-123-181	SCREW-PH	+M2.3x16 FE FZY	
Transport Mechanism Assembly					913	67008-126-081	SCREW-PH	+M2.8x8 FE FZY	
201	66120-600-050	MECHA CHASSIS ASSY	SECC+SUM	S.N.A	914	67108-330-081	SCREW-PH	M3x8TAP TITE	
206	65234-600-411	REEL DISK (T) ASSY	POM+SUS		917	67094-700-620	SCREW-BH	+M3x7.5 BSQJ WPHI	
207	67304-600-511	REEL DISK (S) ASSY	POM+SUS		918	67094-700-710	SCREW-PWH	+M3x8 FE FZY	
208	66674-609-110	HOLDER TENSION SP	SECC 2020		923	67094-700-730	SCREW-PWH	M3x12 FE FZY	
209	66674-611-310	SPRING ARM TENSION	SUS304-WPB		924	67094-700-720	SCREW-PWH	M3x8 FE FZY	
210	65254-608-410	ARM TENSION ASSY	SECC+SUS 304		951	67304-600-010	WASHER-PLAIN	SPG	
211	65274-600-610	TENSION BAND ASSY	FELT-PBSP		953	67304-103-430	WASHER-PLAIN	3.2x6x0.13 POLY SLIDE	
212	69000-270-040	ASSY POLE BASE L	G		954	67304-103-410	WASHER-PLAIN	3.2x6x0.5 POLY SLIDE	
213	66653-600-011	BASE POLE (L) ASSY	ZDC12+SUS		957	67334-600-310	SUT WASHER	PI2.5xPI5.2xT0.5	
214	65223-700-330	GUIDE ROLLER ASSY	SUS303+POM		958	67334-600-410	SUT WASHER	PI3.2xPI6.2xT0.5	
215	69000-270-039	ASSY POLE BASE R	G		971	67358-103-008	RING-E	PI5 STSC304-CSP	
216	66653-600-811	BASE POLE (R) ASSY	ZDC12+SUS		Bottom Side Mechanism				
218	67224-602-010	NUT-NYLON	M3x0.5 FE FZY		201	66120-600-050	MECHA CHASSIS ASSY	SECC+SUM	S.N.A
219	66674-611-810	SPRING REVIEW ARM	SUS304-WPB		202	66114-600-010	BRKT A	SECC 2020	
220	69000-270-042	ASSY HOLDER LED	G		203	66114-600-110	BRKT B	SECC 2020	
224	67224-600-010	NUT-ADJUST	C3604BD		204	66114-611-210	BRACKET D	SPG T1.8	
225	66674-611-510	SPRING TORSION A/C	SUS 304 WPB		256	69000-270-022	ASSY GEAR LOADING L	G7	
228	69000-270-058	ASSY A/C HEAD	G		260	69000-270-023	ASSY GEAR LOADING R	G7	
230	66614-611-510	HOLDER A/C HEAD	SECC		263	65153-600-011	IDLER CLUTCH ASSY	960550 (G-7)	
					266	66614-607-920	HOLDER CAP MOTOR	SECC 2020	

*S.N.A. SERVICE NOT AVAILABLE

LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO.	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
267	64769-052-025	MOTOR CAPSTAN	VCM 4730AL		539	63054-220-420	LEAD WIRE	1429 #26 BROWN 195	
268	65124-600-011	CAPSTAN HOLDER ASSY	PC 30% GF		540	63054-220-430	LEAD WIRE	1429 #26 BLACK 180	
269	65224-602-120	CAPSTAN FLY WHEEL ASSY	ZD02+SUS		541	63005-005-033	PWB-SENSOR (E)	94V0 1.6T x 21.5 x 25 (G-7)	
270	66614-607-810	BRKT CAP FLY WHEEL	SECC 2020		542	63054-220-440	LEAD WIRE	1429 #26 BLUE 288	
271	65274-600-811	CAPSTAN BELT	DC-66		543	63054-220-450	LEAD WIRE	1429 #26 RED 280	
272	65274-600-711	IDLER BELT	CY-65		544	63054-220-460	LEAD WIRE	1429 #26 ORANGE 285	
273	65253-602-010	PLATE MAIN SLIDE	SECC 2020		545	63005-005-032	PWB-SENSOR (S)	94V0 1.6T x 45 x 35 (G-7)	
274	65253-602-110	LB SLIDE ASSY	SECC+SUM+SUS		546	63054-220-530	WIRE GROUND	1007 #16 75 BLACK	
275	66634-602-510	SLIDE STOPPER	CY-65		0001	62139-701-020	TRANSISTOR	KSR2001	
276	66674-613-110	SPRING I.B SLIDE	SUS 304-WPB		0002	62139-701-020	TRANSISTOR	KSR2001	
277	65293-600-011	LOADING MOTOR ASSY	960 490 (G-7)		0003	62139-401-055	TR-PHOTO	PN2025 (R)	
280	66624-600-610	TIE BAND	NYLON 616 100		0004	62139-401-055	TR-PHOTO	PN2025 (R)	
401	66604-622-410	HEAD BRUSH ASSY	PN VRYSH+DEMPEP+B.B		910	67108-600-010	SCREW TAP PH	2S-M3x5 FE FZY	
520	66674-608-110	GROUND TOP PLATE	PB SP T0.15		909	67154-101-310	SCREW-TAP PWH	1S-M3x8 FE FZY	
902-1	67004-100-710	SCREW-PH	+M3x4 FE FZY		CN206	63053-612-615	LEAD CONNECTOR ASSY	1429 #26 RED 150 CN206	
902	67004-101-414	SCREW-BH	M3x4 FE FZY						
905	67004-101-413	SCREW-BH	M3x3 FE FZY						
906	67008-130-061	SCREW-PH	+M3x8 FE FZY						
907	67004-100-710	SCREW-PH	+M3x4 FE FZY						
908	67008-130-051	SCREW-PH	+M3x5 FE FZY						
918	67094-700-710	SCREW-PWH	+M3x8 FE FZY						
953	67304-103-430	WASHER-PLAIN	3.2x6x0.13 POLY SLIDE						
954	67304-600-410	WASHER-PLAIN	PI3.1xPI8xT0.5						
955	67304-700-810	WASHER-PLAIN	42x8x0.5 POLY SLIDE						
956-1	66684-600-410	WASHER-DUST	8x0.5 POLY AMID						
972	67358-104-008	RING-E	PI4 SUS 304-CSP						
973	67358-102-506	RING-E	PI2.5 STSC 304-CSP						
Housing Assembly									
500	66122-700-480	HOUSING ASSY	F/L SYSTEM (G-7)						
502	69000-470-010	ASSY HOUSING CHASSIS	F/L SYSTEM (G-7)	S.N.A					
503	66022-600-320	SIDE CHASSIS (R)	ABS G20						
504	66022-600-420	SIDE CHASSIS (L)	ABS G20						
505	66463-601-210	CASSETTE-GUIDE	ABS (BLK)						
506	65104-612-010	RELAY SHAFT	SUM-2						
507	65204-603-010	RELAY GUIDE (R)	DURACON (M90-44)						
508	65204-603-010	RELAY GUIDE (L)	DURACON (M90-44)						
509	65254-608-510	MASK CAM LEVER	DURACON (M90-44)						
510	69000-470-020	ASSY-CASSETTE HOLDER	F/L SYSTEM (G7)						
511	66132-600-110	CASSETTE HOLDER	SECC-E2020 T1.2						
512	66054-604-310	KEY-CASSETTE	DURACON+SUS 304 T0.5						
513	66674-612-410	CASSETTE HOLDER SPR	SYS 304 T0.15						
514	65104-612-110	HOLDER SHAFT (R)	SUM-2 (H)						
515	65104-612-210	HOLDER SHAFT (L)	SUM-2 (H)						
516	65104-612-310	GUIDE PIN (R)	SUM-2 (H)						
517	65104-612-410	GUIDE PIN (L)	SUM-2 (H)						
518	65104-612-510	VERTICAL GUIDE PIN	SUM-2 (H)						
519	66152-600-110	UPPER CHASSIS	SECC-E						
520	66674-608-110	GROUND-PLATE TOP	PBSP T0.15						
521	65202-600-220	SIDE ARM (R)	DURACON (M90-44)						
522	66674-616-410	ARM TORSION SPRING R	SWP-B P1.0						
523	65202-600-320	SIDE ARM (L)	DURACON (M90-44)						
524	66674-616-310	ARM TORSION SPRING L	SWP-B P1.0						
525	65203-600-720	ARM GEAR	NYLON 66 (CM300)						
526	66684-605-510	ARM GEAR PIN	SUS 420 J2-8						
527	66674-616-610	EJECT SPRING	SWP-B						
528	65203-600-810	SIDE BEBEL GEAR	DURACON (M90-44)						
529	65203-600-820	TIMING GEAR	DURACON (M90-44)						
530	66153-600-610	GEAR HOLDER PLATE	SECC-E2020 T1.0						
531	66463-601-310	LID OPENER	DURACON (M90-44)						
532	66674-616-510	LID OPENER SPRING	SWP-B P1.0.5						
533	67842-601-112	FRONT-MASK	ACRYL						
534	66674-602-810	MASK-SPRING	SUS 304						
535	63569-700-210	REC SAFETY-SW	MSW-1465 NBKU						
536	63054-220-400	LEAD WIRE	1429 #26 GRAY 365						
537	63054-220-410	LEAD WIRE	1429 #26 BLUE 163						
538	63566-700-310	CASSETTE-SW	MSW-1429CA						

6-2. ELECTRICAL REPLACEMENT PARTS LIST

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS	
	6909-270-065	ASSY JOINT BOARD	D7-NR2	S.N.A.	D707	62189-406-482	DIODE	1N4148 SAMSUNG		
279	83005-004-064	PWB DFCR JOINT (G-7)	94VO 16x18xN3		D709	62189-406-482	DIODE	1N4148 SAMSUNG		
IC205	82119-103-616	IC	BA6209		DT1	82319-013-042	DIGITRON	8-MT222		
IC206	82119-103-616	IC	BA6209			63005-006-356	PWB-TIMER	IV1 1.6x147.5x247		
Q209	82136-302-741	TRANSISTOR	KSC045-Y SAMSUNG		SW718	63349-062-570	CONNECTOR-WAFER	5268-08A		
Q204	82136-302-013	TRANSISTOR	KSR 1004			83519-012-071	SWITCH-SLIDE	KSA2340A/T0023002-3		
Q205	82136-302-381	TRANSISTOR	KSA733-Y SAMSUNG		SW701	63599-016-070	SWITCH-TACT	EVO-OS2 05K		
Q208	82136-302-381	TRANSISTOR	KSA733-Y SAMSUNG		SW702	63599-016-070	SWITCH-TACT	EVO-OS2 05K		
R248	81048-177-683	R-METAL FILM	RM18TS 88K-J		SW703	63599-016-070	SWITCH-TACT	EVO-OS2 05K		
R249	81048-177-472	R-METAL FILM	RM18TS 47K-J		SW704	63599-016-070	SWITCH-TACT	EVO-OS2 05K		
R250	81048-177-222	R-METAL FILM	RM18TS 2.2K-J	SW705	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R241	81048-177-391	R-METAL FILM	RM18TS 390-J	SW706	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R242	81048-177-221	R-METAL FILM	RM18TS 220-J	SW707	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R243	81049-527-689	R-METAL OXIDE	RS2P 8.8-J	SW708	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R244	81044-427-336	R-METAL OXIDE	RS1P 3.3-J	SW709	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R001	81048-177-100	R-METAL FILM	RM18TS 10K-J	SW710	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R251	81048-177-474	R-METAL FILM	RM18TS 470K-J	SW711	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
R252	81048-177-224	R-METAL FILM	RM18TS 220K-J	SW712	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C229	81417-109-210	C-CERAMIC HK	DK45F TAPQ 50V 0.1M-Z	SW713	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C230	81419-109-210	C-CERAMIC HK	CK45F 50V 0.1M-J	SW714	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C231	81419-109-210	C-CERAMIC HK	CK45F 50V 0.1M-J	SW715	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C232	81417-109-210	C-CERAMIC HK	DK45F TAPQ 50V 0.1M-Z	SW716	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C233	81809-803-120	C-ELECTROLYTIC HP	CE04W 16V 10M	SW717	63599-016-070	SWITCH-TACT	EVO-OS2 05K			
C234	81809-401-470	C-ELECTROLYTIC	CE04W 16V 100M		64529-312-010	REMOCON MODULE	8V06A			
L201	82429-813-220	COIL-PEAKING	EL0807-SK1-220K		66803-605-410	HOLDER-TIMER	ABS 94HB			
L202	82429-814-091	COIL-CHOKER	H58 13.4-15.2	89771-803-230 ASSY-FUNCTION				G-7, VY-713C		
CN204	63349-062-590	CONNECTOR-WAFER	5268-10A	LD801	62309-115-340	LED	GL3HD7/GL3HD8			
CN205	63349-062-620	CONNECTOR-WAFER	5268-13A			63005-006-356	PWB-FUNCTION	IV1 1.6x78x197		
CN206	63349-062-550	CONNECTOR-WAFER	5268-08A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN207	63349-062-520	CONNECTOR-WAFER	5268-03A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN208	63349-062-530	CONNECTOR-WAFER	5268-04A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN209	63349-062-311	CONNECTOR-WAFER	5267-02A (BLU)			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN210	63349-062-310	CONNECTOR-WAFER	5267-02A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN211	63349-062-511	CONNECTOR-WAFER	5268-02A (RED)			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN212	63349-062-510	CONNECTOR-WAFER	5266-02A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN213	63349-062-510	CONNECTOR-WAFER	5266-02A			63599-016-070	SWITCH-TACT	EVO-OS2 05K		
CN214	63349-062-540	CONNECTOR-WAFER	5268-05A		63734-700-710	RING-CHANNEL	AB5750 HF380			
89770-803-203 ASSY-TIMER PAL (G-7, VY-713C)					89096-800-359 REGULATOR-ASSY PAL (G-7)					
R705	81048-177-103	R-METAL FILM	RM18TS 10K-J	C104	80849-100-100	BELT	FREE UP BELT			
R706	81048-177-103	R-METAL FILM	RM18TS 10K-J			81808-144-103	CAPACITOR (E.C)	35V 1000 MIFC (S.H) CASE VENT		
R707	81048-177-103	R-METAL FILM	RM18TS 10K-J		C102	81809-144-332	CAPACITOR (E.C)	35V 3300 MIFC (S.H) CASE VENT		
R708	81048-177-103	R-METAL FILM	RM18TS 10K-J				81808-132-332	CAPACITOR (E.C)	16V 3300 MIFC (S.H)	
R709	81048-177-103	R-METAL FILM	RM18TS 10K-J		C110	81807-402-210	CAPACITOR (E.C)	50V 1MIFC (S.H)		
R710	81048-177-271	R-METAL FILM	RM18TS 270-J		C111	81807-402-210	CAPACITOR (E.C)	50V 1MIFC (S.H)		
R701	81048-177-473	R-METAL FILM	RM18TS 47K-J		C112	81807-402-210	CAPACITOR (E.C)	50V 1MIFC (S.H)		
R702	81048-177-473	R-METAL FILM	RM18TS 47K-J		C108	81807-401-430	CAPACITOR (E.C)	16V 10MIFC (S.H)		
R703	81048-177-473	R-METAL FILM	RM18TS 47K-J		C108	81807-122-221	CAPACITOR (E.C)	50V 22MIFC (S.H)		
R704	81048-177-473	R-METAL FILM	RM18TS 47K-J		C113	81807-401-479	CAPACITOR (E.C)	16V 47MIFC (S.H)		
R711	81048-177-473	R-METAL FILM	RM18TS 47K-J	C115	81807-401-479	CAPACITOR (E.C)	16V 47MIFC (S.H)			
R712	81048-177-473	R-METAL FILM	RM18TS 47K-J	C116	81807-122-471	CAPACITOR (E.C)	25V 47MIFC (S.H)			
VR703	81203-107-031	VR-ROUND	VA09CH1 U15F 8500K	C106	81808-124-473	CAPACITOR (E.C)	50V 47MIFC (S.H)			
VR704	81203-107-032	VR-ROUND	VA09CH1 U15F 820K	C107	81808-124-473	CAPACITOR (E.C)	50V 47MIFC (S.H)			
VR702	81243-103-020	VR-SEMI	SR 19D-47K8	C114	81807-401-470	CAPACITOR (E.C)	16V 10MIFC (S.H)			
C701	81417-109-140	C-CERAMIC HK	CK45F TAPQ 50V 0.01M-Z		63005-004-958	PCB	XPC-PR1 (G-7 PAL)			
C702	81807-401-440	C-ELECTROLYTIC	CE04W TAPQ 16V 22M	LF101	82429-014-115	LINE FILTER	9Q HL38			
C703	81807-402-250	C-ELECTROLYTIC	CE02W TAPQ 50V 10M-M			63379-800-070	POWER TRANS	E180x30 (G-CORE) 710T		
IC701	82109-502-010	IC	MSC1165RS				BRKT-HEAT SINK	AL 120		
Q701	82137-701-013	TRANSISTOR	KSR 1004 TAPQ							
D701	82189-406-482	DIODE	1N4148 SAMSUNG							
D702	82189-406-482	DIODE	1N4148 SAMSUNG							
D703	82189-406-482	DIODE	1N4148 SAMSUNG							
D704	82189-406-482	DIODE	1N4148 SAMSUNG							
D705	82189-406-482	DIODE	1N4148 SAMSUNG							
D706	82189-406-482	DIODE	1N4148 SAMSUNG							

S.N.A. SERVICE NOT AVAILABLE

LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
	80859-431-573	TAP STUD	SPC T0.5			61802-121-470	C-ELECTROLYTIC	8.3V 4uF (RSS)	S.N.A.
	80859-431-574	AC IN COVER	PET T1.0			63005-006-187	PWB-REMOCON	ART PAPER	S.N.A.
	80859-431-575	COVER CAPACITOR	PET T0.8			88623-804-030	BOX REMOCON		S.N.A.
	80859-431-576	FUSE COVER	PET T1.0		89702-803-205 ASSY-MAIN (B) PAL (G-7C)				
	83054-220-470	GROUND WIRE	110.16 300V 180AY			83005-006-348	PWB-MAIN (B)	16.0 26 300V 150AA	
	83064-801-140	POWER CORD AC	KK44HC STOPPER			83054-211-180	WIRE-GND ASSY	18PBLK	
	83349-062-410	CONNECTOR WAFER	5267-15A (AOLEX)			83304-113-621	CONNECTOR-TERMINAL	5033-4T	
	83354-000-020	CONNECTOR ASSY	G-7 PAL			83054-211-170	WIRE-GND ASSY	1007 #18 300 BLK AA	
F102	64708-064-771	FUSE	5x20 T2.5A 250V			83054-211-180	WIRE-GND ASSY	1007 #18 270 BLK AA	
F101	64708-064-772	FUSE	5x20 T500MA 250V			83304-113-621	CONNECTOR-TERMINAL	5033-4T	
	64708-064-773	FUSE CLIP	RBP41 1/2H SV9500			83054-222-080	WIRE-JUMPER (H-WRAP)	1007 #26-SOLD WHT 80	
IC101	82119-101-430	IC	STK5333 (KTS)			83054-222-100	WIRE-JUMPER (H-WRAP)	1007 #26-SOLD WHT 100	
IC102	82106-201-282	IC	MC7812 (SST)			83054-222-125	CABLE-FLAT RIBBON	UL2877-06P 7/16 16 200BLK	
Q101	82136-302-748	TRANSISTOR	KSC045-Y (SST)			83064-700-125	CABLE-FLAT RIBBON	UL2877-06P #26 170 BLK	
Q102	82136-302-748	TRANSISTOR	KSC045-Y (SST)			83064-700-131	CONNECTOR-WAFER	5267-04A	
Q103	82136-701-017	TRANSISTOR	KSR1008			83349-062-340	CONNECTOR-WAFER	5267-05A	
D104	82189-201-080	DIODE	IN4002 (DONG SUNG)			83349-062-360	CONNECTOR-WAFER	5267-07A	
D102	82189-201-080	DIODE	IN4002 (DONG SUNG)			83349-062-370	CONNECTOR-WAFER	5267-08A	
D103	82189-406-482	DIODE	IN4148			83349-062-410	CONNECTOR-WAFER	5267-12A	
D101	82189-403-850	DIODE	(S.D) RBV402			80868-508-210	SUNLID	0.45x0.15x1100 VO BLK	
SD101	82189-403-860	DIODE	EQ402-23A (FUJI)			66854-705-010	CIRCUIT BOARD SUP	PN-2435	
SD102	82189-403-870	DIODE	EQ402-07A (FUJI)		AUDIO-PART PAL (G-7C)				
R104	81048-227-302	RESISTOR (M.F)	RM14P 1K-J			81048-177-103	R-METAL FILM	RM18TS 10K-J	
R102	81048-227-302	RESISTOR (M.F)	RM14P 1K-J			81048-177-105	R-METAL FILM	RM18TS 1M-K	
R105	81048-227-302	RESISTOR (M.F)	RM14P 1K-J			81048-177-122	R-METAL FILM	RM18TS 1.2K-J	
R110	81048-227-303	RESISTOR (M.F)	RM14P 10K ±5%			81048-177-123	R-METAL FILM	RM18TS 12K-J	
R101	81048-227-303	RESISTOR (M.F)	RM14P 10K ±5%			81048-177-151	R-METAL FILM	RM18TS 150-J	
R111	81048-227-303	RESISTOR (M.F)	RM14P 120K ±5%			81048-177-153	R-METAL FILM	RM18TS 15K-J	
R112	81048-227-303	RESISTOR (M.F)	RM14P 120K ±5%			81048-177-182	R-METAL FILM	RM18TS 1.8K-J	
R108	81048-227-303	RESISTOR (M.F)	RM14P 1.8K ±5%			81048-177-223	R-METAL FILM	RM18TS 22K-J	
R106	81048-227-303	RESISTOR (M.F)	RM14P 2.7K ±5%			81048-177-272	R-METAL FILM	RM18TS 27K-J	
R107	81048-227-303	RESISTOR (M.F)	RM14P 4.7K ±5%			81048-177-274	R-METAL FILM	RM18TS 270K-J	
FR102	81099-805-070	FUSEABLE RESISTOR	FRM4 2.0-J			81048-177-332	R-METAL FILM	RM18TS 3.3K-J	
FR101	81099-805-071	FUSEABLE RESISTOR	FRM4 1.2-J			81048-177-473	R-METAL FILM	RM18TS 47K-J	
C101	81408-801-320	CAPACITOR (L.A)	ECK-DN5472ME			81048-177-513	R-METAL FILM	RM18TS 51K-J	
	80508-400-116	WIRE-SO COPPER	TAD.85N			81048-177-563	R-METAL FILM	RM18TS 56K-J	
	67154-800-820	SCREW	TAP WASHER 2S 3x15 ZNY			81048-177-643	R-METAL FILM	RM18TS 68K-J	
	67154-800-830	SCREW	TAP WASHER 2S 3x8 CUT ZNY			81048-177-683	R-METAL FILM	RM18TS 68K-J	
	67154-800-840	SCREW	TAP WASHER 2S 3x10 ZNY			81048-177-683	R-METAL FILM	RM18TS 68K-J	
	67154-800-850	SCREW	TAP RH2S 4x8 CUT ZNY			81048-177-822	R-METAL FILM	RM18TS 8.2K-J	
	80488-800-150	ADHESIVE	#1800H DIABOND			81246-105-103	VR-SEMI	RH0815C 10K	
	80488-800-100	SOLDER	SN 50% 1.8PHI			81246-105-224	VR-SEMI	RH0815C220K	
	80488-800-180	SOLDER	G-748			81409-101-440	C-CERAMIC TEMP	CC45SL 50V 220V	
	80488-800-110	SILICON GREASE	GENKLENE LV			81507-121-340	C-POLYESTER	CQ921M TAPQ 100V 0.001M-K	
	80488-800-120	TRICHLORD ETHANE	CH332 CHOH			89099-805-100 REMOCON ASSY (M/L)			
	80488-800-130	ISO PROPYL ALCOHOL	FR-207			66151-800-310	COVER TOP REMOCON	ABS 94HB BLK	S.N.A.
	80488-800-140	SOLDER FLUX				67844-800-120	DOOR BATTERY	ABS 94HB BLK	S.N.A.
						67813-807-810	INLAY COVER REMOCON	PVC SHEET T0.5	S.N.A.
						67954-807-879	WINDOW REMOCON	ACRYL	S.N.A.
						67872-800-310	KEY REMOCON	RUBBER SILICON	S.N.A.
						66674-611-010	SPRING REMOCON (A)	PBR 2-1/4	S.N.A.
						66673-800-510	SPRING (B)	SUS 304 T0.4	S.N.A.
						84539-102-311	CERAMIC RESONATOR	CSB 455 EBL	S.N.A.
						61406-101-380	C-CERAMIC	CC45SL 100J	S.N.A.
						82149-301-431	TRANSISTOR	MSC 1008 Y	S.N.A.
						82308-112-030	LED IR	ELVIL2	S.N.A.
						62116-801-581	IC	TC9012MF-001	S.N.A.
						81018-177-108	RESISTOR	RM18TS 1.0-J	S.N.A.
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LOGA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LOGA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
C0502	81507-121-370	C-POLYESTER	CO921M TAPG 100V 0.001M-K		R3528	81048-177-152	R-METAL FILM	RM1V8TS 1.5K-J	
C0510	81507-121-430	C-POLYESTER	CO921M TAPG 100V 0.0047M-K		R3370	81048-177-152	R-METAL FILM	RM1V8TS 1.5K-J	OPTION
C0515	81507-121-430	C-POLYESTER	CO921M TAPG 100V 0.0047M-K		R3330	81048-177-153	R-METAL FILM	RM1V8TS 15K-J	
C0511	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		R3507	81048-177-153	R-METAL FILM	RM1V8TS 15K-J	
C0519	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		R3530	81048-177-153	R-METAL FILM	RM1V8TS 15K-J	
C0508	81507-121-480	C-POLYESTER	CO921M TAPG 100V 0.015M-K		R3371	81048-177-164	R-METAL FILM	RM1V8TS 180K-J	
C0504	81507-121-540	C-POLYESTER	CO921M TAPG 100V 0.030M-K		R3372	81048-177-164	R-METAL FILM	RM1V8TS 180K-J	
C0513	81507-121-600	C-POLYESTER	CO921M TAPG 100V 0.058M-K		R3352	81048-177-182	R-METAL FILM	RM1V8TS 1.8K-J	OPTION
C0521	81807-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		R3508	81048-177-182	R-METAL FILM	RM1V8TS 1.8K-J	
C0517	81807-401-440	C-ELECTROLYTIC	CE04W TAPG 18V 22M		R3540	81048-177-183	R-METAL FILM	RM1V8TS 18K-J	
C0520	81807-401-450	C-ELECTROLYTIC	CE04W TAPG 18V 33M		R3311	81048-177-201	R-METAL FILM	RM1V8TS 20K-J	
C0507	81807-401-450	C-ELECTROLYTIC	CE04W TAPG 18V 33M		R3318	81048-177-202	R-METAL FILM	RM1V8TS 2K-J	
C0505	81807-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		R3338	81048-177-202	R-METAL FILM	RM1V8TS 2K-J	
C0523	81807-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		R3514	81048-177-202	R-METAL FILM	RM1V8TS 2K-J	
C0516	81807-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		R3322	81048-177-221	R-METAL FILM	RM1V8TS 220K-J	
C0506	81807-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		R3528	81048-177-221	R-METAL FILM	RM1V8TS 220K-J	
C0508	81807-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		R3550	81048-177-222	R-METAL FILM	RM1V8TS 2.2K-J	
C0514	81807-401-630	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		R3543	81048-177-222	R-METAL FILM	RM1V8TS 2.2K-J	
C0503	81807-401-810	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		R3329	81048-177-222	R-METAL FILM	RM1V8TS 2.2K-J	
C0518	81807-402-210	C-ELECTROLYTIC	CE04W TAPG 30V 1M		R3317	81048-177-222	R-METAL FILM	RM1V8TS 2.2K-J	
I05002	81100-301-641	IC	UPC1513		R3502	81048-177-222	R-METAL FILM	RM1V8TS 2.2K-J	
I05001	82119-103-820	IC	BA751LS		R3338	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	OPTION
L0501	82127-812-101	IL-PEAKING	EL0606RA-101J (100UH) TAPG		R3344	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
L0503	82429-010-280	COIL-PEAKING	BOAM-22MH		R3332	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
L0502	82429-010-280	COIL-PEAKING	BOAM-22MH		R3308	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
L0504	82429-014-122	COIL-OSC	70KHZ 9V BLOCK		R3307	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
VIDEO-PART, PAL (G-7C)					R3333	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
R3327	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3336	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
R3335	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3544	81048-177-223	R-METAL FILM	RM1V8TS 22K-J	
R3341	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3535	81048-177-271	R-METAL FILM	RM1V8TS 270J	
R3537	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3312	81048-177-271	R-METAL FILM	RM1V8TS 270J	
R3531	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3321	81048-177-272	R-METAL FILM	RM1V8TS 2.7K-J	
R3529	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3503	81048-177-272	R-METAL FILM	RM1V8TS 2.7K-J	
R3519	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3504	81048-177-272	R-METAL FILM	RM1V8TS 2.7K-J	
R3518	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3505	81048-177-272	R-METAL FILM	RM1V8TS 2.7K-J	
R3517	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3324	81048-177-273	R-METAL FILM	RM1V8TS 27K-J	
R3516	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3348	81048-177-274	R-METAL FILM	RM1V8TS 270K-J	
R3515	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3347	81048-177-302	R-METAL FILM	RM1V8TS 3K-J	
R3514	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3358	81048-177-302	R-METAL FILM	RM1V8TS 3K-J	
R3513	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3512	81048-177-302	R-METAL FILM	RM1V8TS 3K-J	
R3512	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3331	81048-177-332	R-METAL FILM	RM1V8TS 3.3K-J	
R3511	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3334	81048-177-332	R-METAL FILM	RM1V8TS 3.3K-J	
R3510	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3325	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	
R3509	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3516	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	
R3508	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3511	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	OPTION
R3507	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3543	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	
R3506	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3533	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	
R3505	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3508	81048-177-333	R-METAL FILM	RM1V8TS 33K-J	
R3504	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3382	81048-177-361	R-METAL FILM	RM1V8TS 360J	
R3503	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3328	81048-177-361	R-METAL FILM	RM1V8TS 360J	
R3502	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3310	81048-177-391	R-METAL FILM	RM1V8TS 360J	
R3501	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3388	81048-177-391	R-METAL FILM	RM1V8TS 360J	
R3500	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3513	81048-177-392	R-METAL FILM	RM1V8TS 3.9K-J	
R3499	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3386	81048-177-392	R-METAL FILM	RM1V8TS 3.9K-J	
R3498	81048-177-102	R-METAL FILM	RM1V8TS 1K-J		R3386	81048-177-392	R-METAL FILM	RM1V8TS 3.9K-J	
R3497	81048-177-103	R-METAL FILM	RM1V8TS 10K-J		R3318	81048-177-471	R-METAL FILM	RM1V8TS 470J	
R3496	81048-177-103	R-METAL FILM	RM1V8TS 10K-J		R3387	81048-177-471	R-METAL FILM	RM1V8TS 470J	
R3495	81048-177-103	R-METAL FILM	RM1V8TS 10K-J		R3342	81048-177-472	R-METAL FILM	RM1V8TS 4.7K-J	
R3494	81048-177-103	R-METAL FILM	RM1V8TS 10K-J		R3539	81048-177-473	R-METAL FILM	RM1V8TS 47K-J	OPTION
R3493	81048-177-104	R-METAL FILM	RM1V8TS 100K-J		R3323	81048-177-474	R-METAL FILM	RM1V8TS 470K-J	
R3492	81048-177-104	R-METAL FILM	RM1V8TS 100K-J		R3360	81048-177-474	R-METAL FILM	RM1V8TS 470K-J	
R3491	81048-177-122	R-METAL FILM	RM1V8TS 1.2K-J		R3515	81048-177-474	R-METAL FILM	RM1V8TS 470K-J	
R3490	81048-177-122	R-METAL FILM	RM1V8TS 1.2K-J		R3337	81048-177-511	R-METAL FILM	RM1V8TS 510J	
R3489	81048-177-122	R-METAL FILM	RM1V8TS 1.2K-J		R3353	81048-177-561	R-METAL FILM	RM1V8TS 560J	
R3488	81048-177-123	R-METAL FILM	RM1V8TS 15K-J		R3523	81048-177-561	R-METAL FILM	RM1V8TS 560J	
R3487	81048-177-133	R-METAL FILM	RM1V8TS 15K-J		R3356	81048-177-562	R-METAL FILM	RM1V8TS 5.6K-J	
R3486	81048-177-151	R-METAL FILM	RM1V8TS 150J		R3361	81048-177-564	R-METAL FILM	RM1V8TS 560K-J	
R3485	81048-177-152	R-METAL FILM	RM1V8TS 1.5K-J		R3349	81048-177-681	R-METAL FILM	RM1V8TS 680J	
R3484	81048-177-152	R-METAL FILM	RM1V8TS 1.5K-J		R3319	81048-177-681	R-METAL FILM	RM1V8TS 680J	

*S.N.A. SERVICE NOT AVAILABLE.

LOGA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LOGA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
R3510	81048-177-682	R-METAL FILM	RM1V8TS 6.8K-J	OPTION	C3339	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	OPTION
R3345	81048-177-684	R-METAL FILM	RM1V8TS 680K-J		C3324	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3541	81048-177-821	R-METAL FILM	RM1V8TS 820J		C3333	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3501	81048-177-821	R-METAL FILM	RM1V8TS 820J		C3304	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3320	81048-177-821	R-METAL FILM	RM1V8TS 820J		C3306	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3335	81048-177-822	R-METAL FILM	RM1V8TS 8.2K-J		C3311	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3340	81048-177-822	R-METAL FILM	RM1V8TS 8.2K-J		C3310	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3346	81048-177-823	R-METAL FILM	RM1V8TS 82K-J		C3309	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
R3508	81048-177-823	R-METAL FILM	RM1V8TS 82K-J		C3308	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR0601	81246-105-472	VR-SEMI	RH0815C 4.7K8		C3314	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3001	81246-105-472	VR-SEMI	RH0815C 4.7K8	OPTION	C3315	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3002	81246-105-102	VR-SEMI	RH0815C 1K8		C3316	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3003	81246-105-103	VR-SEMI	RH0815C 10K8		C3502	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3004	81246-105-103	VR-SEMI	RH0815C 10K8		C3503	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3005	81246-105-103	VR-SEMI	RH0815C 10K8		C3508	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3006	81246-105-103	VR-SEMI	RH0815C 10K8		C3519	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3007	81246-105-103	VR-SEMI	RH0815C 10K8		C3518	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3008	81246-105-103	VR-SEMI	RH0815C 10K8		C3520	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3009	81246-105-103	VR-SEMI	RH0815C 10K8		C3528	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
VR3010	81246-105-103	VR-SEMI	RH0815C 10K8		C3529	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3328	81407-101-240	C-CERAMIC TEMP	CC45SL TAPG 50V 33-J	OPTION	C3534	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3630	81407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J		C3535	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3312	81407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J		C3522	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3350	81407-101-360	C-CERAMIC TEMP	CC45SL TAPG 50V 100-J		C3526	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3371	81407-101-380	C-CERAMIC TEMP	CC45SL TAPG 50V 120-J		C3529	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3521	81407-101-420	C-CERAMIC TEMP	CC45SL TAPG 50V 180-J		C3534	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3365	81407-101-510	C-CERAMIC TEMP	CC45SL TAPG 50V 470-J		C3535	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3347	81407-101-511	C-CERAMIC TEMP	CC45SL TAPG 50V 510-J		C3537	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3351	81407-101-730	C-CERAMIC TEMP	CC45SL TAPG 50V 150-K		C3538	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3313	81407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J		C3527	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K	
C3356	81407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J	C3361	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3345	81407-105-250	C-CERAMIC TEMP	CC45CH TAPG 50V 39-J	C3362	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3358	81407-105-270	C-CERAMIC TEMP	CC45CH TAPG 50V 27-J	C3371	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3341	81407-105-300	C-CERAMIC TEMP	CC45CH TAPG 50V 88-J	C3522	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3327	81407-105-300	C-CERAMIC TEMP	CC45CH TAPG 50V 88-J	C3528	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3334	81407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	C3535	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3342	81407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	C3537	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3360	81407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	C3538	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3370	81407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	C3527	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3305	81407-105-320	C-CERAMIC TEMP	CC45CH TAPG 50V 82-J	C3361	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3510	81407-105-690	C-CERAMIC TEMP	CC45CH TAPG 50V 51-J	C3362	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3517	81407-105-690	C-CERAMIC TEMP	CC45CH TAPG 50V 51-J	C3371	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3375	81407-105-690	C-CERAMIC TEMP	CC45CH TAPG 50V 51-J	C3522	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3513	81407-105-660	C-CERAMIC TEMP	CC45CH TAPG 50V 19-D	C3528	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3378	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	C3535	81507-121-571	C-POLYESTER	CO921M TAPG 100V 0.01M-K		
C3337	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	C3348	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		
C3318	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	C3333	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		
C3340	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3364	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3330	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3507	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3541	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3532	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z						
C3374	81417-109-220	C-CERAMIC HK	CK45F TAPG 50V 0.022M-Z						
C3501	81417-109-220	C-CERAMIC HK	CK45F TAPG 50V 0.022M-Z						
C3515	81507-121-390	C-POLYESTER	CO921M TAPG 100V 0.0022M-K						
C3511	81507-121-420	C-POLYESTER	CO921M TAPG 100V 0.0039-K						
C3307	81507-121-431	C-POLYESTER	CO921M TAPG 100V 0.0047M-J						
C3359	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K						
C3358	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K						
C3353	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K						
C3335	81507-121-470	C-POLYESTER	CO921M TAPG 100V 0.01M-K						

LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO	CODE NO.	DESCRIPTION	SPECIFICATION	REMARKS
C3377	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	OPTION	L3316	62427-812-101	COIL PEAKING	EL0606RA-101J (100UH) TAPG	
C3343	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		L3309	62427-812-121	COIL PEAKING	EL0606RA-121J (120UH) TAPG	
C3367	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		L3303	62427-812-150	COIL PEAKING	EL0606RA-150J (15UH) TAPG	
C3344	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		L3302	62427-812-150	COIL PEAKING	EL0606RA-150J (15UH) TAPG	
C3373	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3504	62427-812-150	COIL PEAKING	EL0606RA-150J (15UH) TAPG	
C3329	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3502	62427-812-180	COIL PEAKING	EL0606RA-180J (18UH) TAPG	
C3317	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3312	62427-812-181	COIL PEAKING	EL0606RA-181-J (180UH) TAPG	
C3542	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3317	62427-812-220	COIL PEAKING	EL0606RA-220J (22UH) TAPG	
C3543	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3301	62427-812-220	COIL PEAKING	EL0606RA-220J (22UH) TAPG	
C3506	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3315	62427-812-221	COIL PEAKING	EL0606RA-221J (220UH) TAPG	
C3540	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M	OPTION	L3307	62427-812-331	COIL PEAKING	EL0606RA-331J (330UH) TAPG	
C3321	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		L3314	62427-812-680	COIL PEAKING	EL0606RA-680J (68UH) TAPG	
C3319	61607-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M		FL3502	62429-014-112	COILTRAP (1/2FH)	7.8K TUNING-COIL	
C3344	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3501	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3338	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3506	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3325	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3313	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3301	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3306	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3533	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3305	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3363	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 16V 100M		L3311	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3336	61607-401-830	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		L3310	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3322	61607-401-830	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M	OPTION	L3304	62429-833-101	COIL PEAKING AXIAL	BAL04ST 101K	
C3368	61607-401-830	C-ELECTROLYTIC	CE04W TAPG 35V 4.7M		FL3504	62429-011-008	DELAY LINE	MS-31PC-6K	
C3505	61607-401-680	C-ELECTROLYTIC	CE04W TAPG 25V 33M		FL3501	64529-310-010	FILTER-CERAMIC	SF45A5B	
C3375	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M		FL3503	64529-401-200	FILTER-LC	SF84141	
C3332	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M		FL3304	64529-401-210	FILTER-LC	SEL 4473	
C3330	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M		FL3303	64529-418-030	FILTER LC	MSF0567 1.5M LPF	
C3331	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M		FL3301	64529-431-030	FILTER-LC	HPF 1.4MHZ (PAL)	
C3366	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M		FL3302	64529-431-085	FILTER-LC	S6P 630T2	
C3349	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M		XTAL1	64539-012-040	CRYSTAL	4.433619MHZ	
C3326	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M		OPTION	69757-603-201 ASSY MAIN A: PAL (G-7W-A)			
C3302	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	SERVO-PART: PAL (G-7A)					
C3512	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
C3514	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
C3523	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
C3531	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
C3369	61607-402-220	C-ELECTROLYTIC	CE04W TAPG 50V 2.2M						
C3323	61607-402-220	C-ELECTROLYTIC	CE04W TAPG 50V 2.2M						
C3509	61607-402-421	C-ELECTROLYTIC	CE04W TAPG 25V 0.22M						
IC3502	62119-101-735	IC	TA8644N	OPTION		R222	61048-177-102	R-METAL FILM	RM18TS 1K-J
IC3304	62119-101-742	IC	TA8605N		R202	61048-177-102	R-METAL FILM	RM18TS 1K-J	
IC3303	62119-101-743	IC	TA8606N		R244	61048-177-102	R-METAL FILM	RM18TS 1K-J	
IC3301	62119-101-744	IC	TA8607P		R228	61048-177-103	R-METAL FILM	RM18TS 10K-J	
IC3302	62119-101-756	IC	MSM8665-3RS		R230	61048-177-103	R-METAL FILM	RM18TS 10K-J	
IC3501	62119-103-614	IC	BA7007-L		R232	61048-177-103	R-METAL FILM	RM18TS 10K-J	
C3305	62137-103-380	TRANSISTOR	KSAT733Y TAPG		R234	61048-177-103	R-METAL FILM	RM18TS 10K-J	
C3306	62137-103-380	TRANSISTOR	KSAT733Y TAPG		R242	61048-177-103	R-METAL FILM	RM18TS 10K-J	
C3303	62137-103-380	TRANSISTOR	KSAT733Y TAPG		R227	61048-177-104	R-METAL FILM	RM18TS 100K-J	
C3308	62137-302-740	TRANSISTOR	KSC945Y TAPG		R236	61048-177-105	R-METAL FILM	RM18TS 1M-K	
C3304	62137-302-740	TRANSISTOR	KSC945Y TAPG	OPTION	R216	61048-177-153	R-METAL FILM	RM18TS 15K-J	
C3307	62137-302-740	TRANSISTOR	KSC945Y TAPG		R221	61048-177-153	R-METAL FILM	RM18TS 15K-J	
C3302	62137-302-740	TRANSISTOR	KSC945Y TAPG		R233	61048-177-273	R-METAL FILM	RM18TS 27K-J	
C3502	62137-302-740	TRANSISTOR	KSC945Y TAPG		R219	61048-177-274	R-METAL FILM	RM18TS 270K-J	
C3503	62137-302-740	TRANSISTOR	KSC945Y TAPG		R241	61048-177-302	R-METAL FILM	RM18TS 3K-J	
C3504	62137-302-740	TRANSISTOR	KSC945Y TAPG		R235	61048-177-303	R-METAL FILM	RM18TS 30K-J	
C3304	62136-701-010	TRANSISTOR	KSAT1001		R205	61048-177-331	R-METAL FILM	RM18TS 33K-J	
C3505	62136-701-010	TRANSISTOR	KSAT1001		R218	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C3302	62189-406-482	DIODE	1N4148 SAMSUNG		R217	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C3304	62189-406-482	DIODE	1N4148 SAMSUNG		R214	61048-177-334	R-METAL FILM	RM18TS 330K-J	
C3301	62189-406-482	DIODE	1N4148 SAMSUNG	OPTION	R215	61048-177-334	R-METAL FILM	RM18TS 330K-J	
L3503	62427-812-100	COIL PEAKING	EL0606RA-100J (100UH) TAPG						
L3308	62427-812-101	COIL PEAKING	EL0606RA-101J (100UH) TAPG						

*S.N.A. SERVICE NOT AVAILABLE.

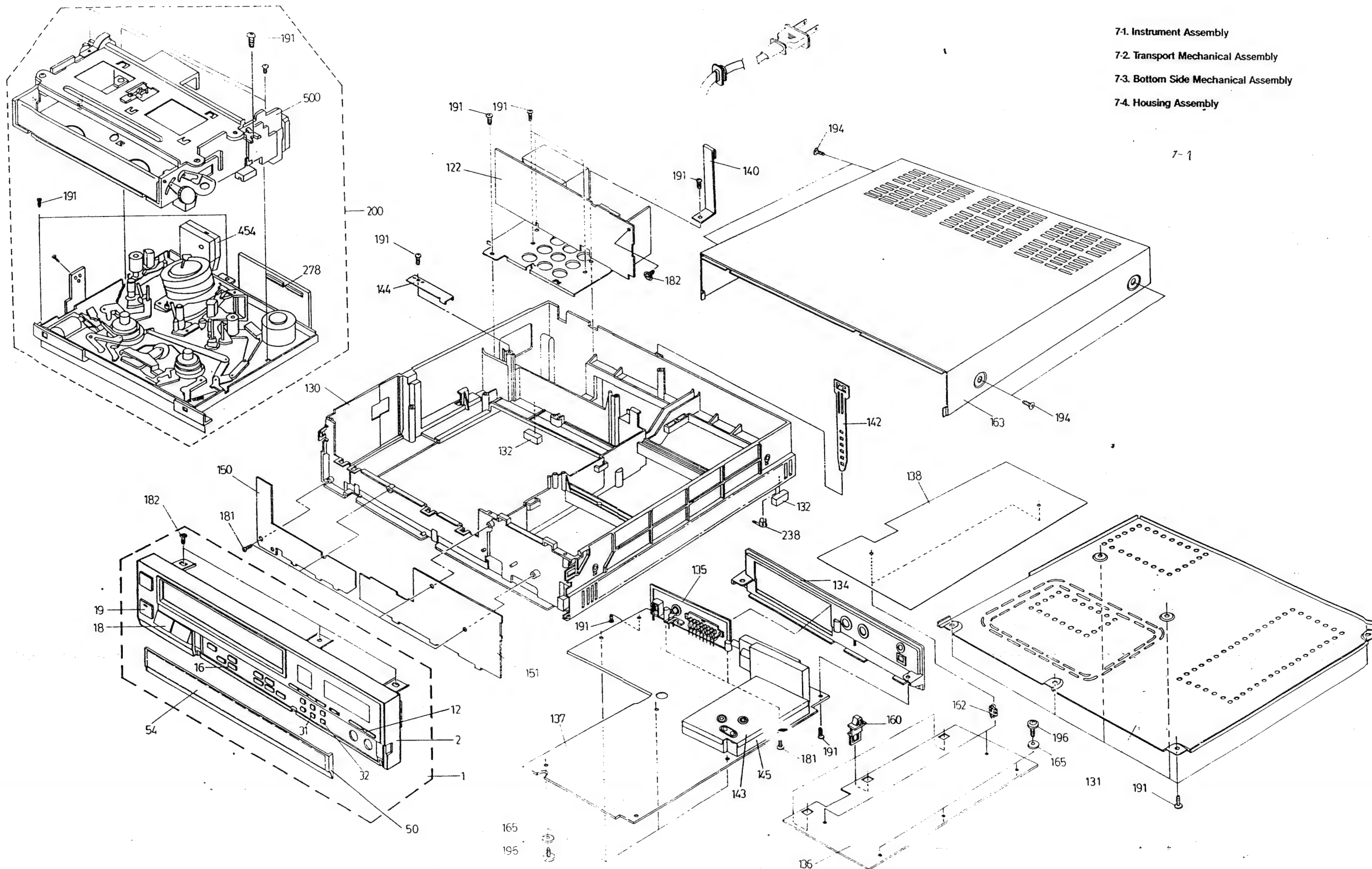
LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
R231	61048-177-392	R-METAL FILM	RM18TS 3.9K-J		Q201	62137-701-013	TRANSISTOR	KSAT1004 TAPG	
R236	61048-177-471	R-METAL FILM	RM18TS 470-J		Q202	62137-701-013	TRANSISTOR	KSAT1004 TAPG	
R246	61048-177-472	R-METAL FILM	RM18TS 4.7K-J		D201	62189-406-482	DIODE	1N4148 SAMSUNG	
R239	61048-177-473	R-METAL FILM	RM18TS 47K-J		D202	62189-406-482	DIODE	1N4148 SAMSUNG	
R220	61048-177-474	R-METAL FILM	RM18TS 470K-J		D203	62189-406-482	DIODE	1N4148 SAMSUNG	
I237	61048-177-474	R-METAL FILM	RM18TS 470K-J		D204	62189-406-482	DIODE	1N4148 SAMSUNG	
R247	61048-177-474	R-METAL FILM	RM18TS 470K-J		D205	63005-006-013	PWB-MAIN(H)	94V0 1.8x241x295 PAL-I	
R201	61048-177-512	R-METAL FILM	RM18TS 5.1K-J		CN203	63124-103-330	PINTEST POINT	BSW 14H P11.0 SN	
R204	61048-177-512	R-METAL FILM	RM18TS 5.1K-J		63349-062-370	CONNECTOR WAFER	5267-08A		
R240	61048-177-512	R-METAL FILM	RM18TS 5.1K-J		64642-602-110	CONNECTOR BOARD	ABS 94V0 (VX-710)		
R209	61048-177-563	R-METAL FILM	RM18TS 56K-J						
R210	61048-177-563	R-METAL FILM	RM18TS 56K-J						
R224	61048-177-563	R-METAL FILM	RM18TS 56K-J						
R225	61048-177-563	R-METAL FILM	RM18TS 56K-J						
R206	61048-177-682	R-METAL FILM	RM18TS 6.8K-J						
R226	61048-177-682	R-METAL FILM	RM18TS 6.8K-J						
R223	61048-177-684	R-METAL FILM	RM18TS 680K-J						
R211	61048-177-820	R-METAL FILM	RM18TS 82-J						
R229	61048-277-101	R-METAL FILM	RM14T 100-J		R607	61048-177-102	R-METAL FILM	RM18TS 1K-J	
VR201	61246-105-473	VR-SEMI	RH0815C 47K8		R608	61048-177-102	R-METAL FILM	RM18TS 1K-J	
VR202	61246-105-473	VR-SEMI	RH0815C 47K8		R622	61048-177-102	R-METAL FILM	RM18TS 1K-J	
VR203	61246-105-474	VR-SEMI	RH0815C 470K8		R605	61048-177-103	R-METAL FILM	RM18TS 10K-J	
C207	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	R606	61048-177-103	R-METAL FILM	RM18TS 10K-J		
C222	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	R613	61048-177-103	R-METAL FILM	RM18TS 10K-J		
C218	61417-100-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	R614	61048-177-103	R-METAL FILM	RM18TS 10K-J		
C231	61507-121-380	C-POLYESTER	CO921M TAPG 100V	R638	61048-177-123	R-METAL FILM	RM18TS 12K-J		
C212	61507-121-420	C-POLYESTER	CO921M TAPG 100V 392-K		R627	61048-177-154	R-METAL FILM	RM18TS 150K-J	
C223	61507-121-420	C-POLYESTER	CO921M TAPG 100V 392-K		R638	61048-177-221	R-METAL FILM	RM18TS 22K-J	
C236	61507-121-420	C-POLYESTER	CO921M TAPG 100V 392-K		R632	61048-177-273	R-METAL FILM	RM18TS 27K-J	
C213	61507-121-440	C-POLYESTER	CO921M TAPG 100V		R633	61048-177-273	R-METAL FILM	RM18TS 27K-J	
C230	61507-121-440	C-POLYESTER	CO921M TAPG 100V	R616	61048-177-333	R-METAL FILM	RM18TS 33K-J		
C208	61507-121-470	C-POLYESTER	CO921M TAPG 100V	R617	61048-177-333	R-METAL FILM	RM18TS 33K-J		
C241	61507-121-510	C-POLYESTER	CO921M TAPG 100V		R618	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C205	61507-121-520	C-POLYESTER	CO921M TAPG 50V		R619	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C209	61507-121-520	C-POLYESTER	CO921M TAPG 50V		R620	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C210	61507-121-520	C-POLYESTER	CO921M TAPG 50V		R621	61048-177-333	R-METAL FILM	RM18TS 33K-J	
C203	61507-121-570	C-POLYESTER	CO921M TAPG 100V	R623	61048-177-333	07 R-METAL FILM	RM18TS 33K-J		
C216	61507-121-630	C-POLYESTER	CO921M TAPG 100V	R636	61048-177-333	08 R-METAL FILM	RM18TS 33K-J		
C202	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25G 10M		R611	61048-177-334	R-METAL FILM	RM18TS 330K-J	
C214	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		R601	61048-177-472	R-METAL FILM	RM18TS 4.7K-J	
C224	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		R602	61048-177-472	R-METAL FILM	RM18TS 4.7K-J	
C226	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		R603	61048-177-472	R-METAL FILM	RM18TS 4.7K-J	
C228	61607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	R604	61048-177-472	R-METAL FILM	RM18TS 4.7K-J		
C201	61607-401-490	C-ELECTROLYTIC (SG)	CE04W TAPG 18V 47M	R610	61048-177-472	R-METAL FILM	RM18TS 4.7K-J		
C237	61607-401-490	C-ELECTROLYTIC (SG)	CE04W TAPG 18V 47M		R624	61048-177-472	R-METAL FILM	RM18TS 4.7K-J	
C225	61607-401-470	C-ELECTROLYTIC	CE04W TAPG 18V 100M		R625	61048-177-472	07 R-METAL FILM	RM18TS 4.7K-J	
C217	61607-802-901	C-ELECTROLYTIC NP	CE04W TAPG 18V 100M		R626	61048-177-472	08 R-METAL FILM	RM18TS 4.7K-J	
C215	61607-802-120	C-ELECTROLYTIC NP	CE04W TAPG 18V 10M		R629	61048-177-472	09 R-METAL FILM	RM18TS 4.7K-J	
C204	61607-803-210	C-ELECTROLYTIC NP	CE04W TAPG 50V 1M	R609	61048-177-473	R-METAL FILM	RM18TS 4.7K-J		
C219	61607-803-210	C-ELECTROLYTIC NP	CE04W TAPG 50V 1M	R637	61048-177-473	R-METAL FILM	RM18TS 4.7K-J		
IC203	62119-101-748	IC	TA 8617S	R638	61048-177-562	R-METAL FILM	RM18TS 5.6K-J		
IC204	62119-101-751	IC	TD6255SS	R639	61048-177-562	R-METAL FILM	RM18TS 5.6K-J		
IC201	62119-101-756	IC	SD3624A		R628	61048-177-823	R-METAL FILM	RM18TS 82K-J	
IC202	62119-103-602	IC	BA718		R615	61048-277-330	R-METAL FILM	RM14T 33-J	
Q203	62137-103-380	TRANSISTOR	KSAT733V TAPG		C807	61417-100-040	C-CERAMIC HK	CK45F TAPG 50V 0.001M	
Q206	62137-103-380	TRANSISTOR	KSAT733V TAPG		C802	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
Q200	62137-302-740	TRANSISTOR	KSCH45V TAPG	C803	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z		
					C806	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
					C809	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
					C810	61417-100-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
					C811	61417-100-200	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
					C814	61417-100-210	C-CERAMIC HK	CK45F TAPG 50V 0.1M-Z	
					C812	61607-401-440	C-ELECTROLYTIC	CE04W TAPG 18V 22M	
					C801	61607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M	
					C814	61607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M	
					C813	61606-401-472	C-ELECTROLYTIC	CE04W 10V 4700M	
					IC802	62119-101-025	IC	CDX100SP	

LCOA NO.	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LCOA NO.	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
IC601	82119-103-177	IC	UPD 75104 CW-087	OPTION	C403	81407-105-230	C-CERAMIC TEMP	CC45SL TAPG 50V 27-J	
IC601	82119-103-118	IC	UPD 75P10BCW		C411	81407-105-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
IC603	82119-101-281	IC	KA-2103LN		C414	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
Q603	82137-301-900	TRANSISTOR	KSR 830V TAPG		C418	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
Q601	82137-701-010	TRANSISTOR	KSR 1001 TAPG		C412	81417-109-140	07 C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z	
Q602	82137-701-013	TRANSISTOR	KSR 1004 TAPG		C434	81417-109-210	C-CERAMIC-HK	CK45F TAPG 50V 0.1M-Z	
D601	82189-406-482	DIODE	1N4148 SAMSUNG		C423	81507-121-450	C-POLYESTER	CO921M TAPG 50V	
D602	82189-406-483	DIODE	1N4148 SAMSUNG					0.0068M-K	
D603	82189-406-482	DIODE	1N4148 SAMSUNG		C401	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
D604	82189-406-482	DIODE	1N4148 SAMSUNG		C406	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
D605	82189-406-482	DIODE	1N4148 SAMSUNG		C407	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M	
CA601	63054-222-180	WIRE-JUMPER (H-WRAP)	1007 #26-SOLD WHT 180	C424	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		
CA602	63349-062-410	CONNECTOR WAFER	5287-12A	C422	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		
XT601	64538-102-012	CERAMIC RESONATOR	FCR 4.0MC	C432	81607-401-430	C-ELECTROLYTIC	CE04W TAPG 25V 10M		
				C410	81607-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M		
				C433	81607-401-440	C-ELECTROLYTIC (SOL)	CE04W TAPG 16V 47M		
				C413	81607-402-200	C-ELECTROLYTIC	CE04W TAPG 50V 0.47M		
				C421	81607-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M		
				C410	81607-401-220	C-ELECTROLYTIC	CE04W TAPG 25V 2.2M		
				C417	81607-402-421	C-ELECTROLYTIC	CE04W TAPG 25V 0.22M		
				C426	81609-401-500	C-ELECTROLYTIC	CE04W 16V 470M		
				C402	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z		
				C408	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z		
				C419	81419-109-220	C-CERAMIC HK	CK45F 50V 0.022M-Z		
				C420	81419-109-220	C-CERAMIC HK	CK45F 50V 0.022M-Z		
				C427	81419-109-200	C-CERAMIC HK	CK45F 50V 0.047M-Z		
				C430	81417-109-140	C-CERAMIC HK	CK45F TAPG 50V 0.01M-Z		
				C415	81609-401-500	C-ELECTROLYTIC	CE04W 16V 470M		
				IC401	82119-101-743	IC	TAB811N		
				IC403	82119-101-748	IC	TAT348P		
				IC404	82119-101-748	IC	TAT348P		
				IC402	82119-101-500	IC-L	KA33V		
				Q402	82137-301-900	TRANSISTOR	KSR 733V TAPG		
				Q406	82137-301-900	TRANSISTOR	KSR 830V TAPG		
				Q403	82137-302-740	TRANSISTOR	KSR 945V TAPG		
				Q405	82137-701-013	TRANSISTOR	KSR 1004 TAPG		
				Q407	82137-701-013	TRANSISTOR	KTC 388ATM		
				Q406	82139-301-090	TRANSISTOR	KSR 843V TAPG		
				Q404	82147-101-950	TRANSISTOR	1N4148 SAMSUNG		
				D401	82189-406-482	DIODE	EL0608 8.2uH		
				L401	82427-812-829	COIL-PEAKING	EL0608RA-220J (22UH)		
				L406	82427-812-220	COIL-PEAKING	TAPG		
				L404	82427-812-229	COIL-PEAKING	EL0608RA-2R2K (2.2UH)		
							TAPG		
				L402	82427-812-270	COIL-PEAKING	EL0608RA-270J (27UH)		
							BAL03 TAPG 100K		
				L407	82427-814-100	COIL-PEAKING	DAESIN 10KZ R55X		
				L403	82429-811-010	COIL-PEAKING	DAS 32.4MHz (G-7)		
				FL408	82429-832-010	COIL-TRAP	DAISIN 40.4MHz (G-7)		
				FL407	82429-832-020	COIL-TRAP	1.2UH PSF MATCH		
				FL410	82429-832-080	COIL VARIABLE			
				FL405	82719-049-012	TRANS-RESONANT (T)	40MHz V-DET		
				FL404	82719-049-013	TRANS-AFT (T2)	40MHz AFT-BAL		
				FL403	82719-049-014	TRANS-COIL (T3)	5.5M TUNING-COIL 5.5M		
					83054-014-670	CABLE-COAXIAL ASSY	UL B65 AWG 30 BLK 100		
					83124-010-330	PINTEST POINT	BSW 1/4H P1.0 5N		
					83344-010-050	HOLDER JACK	G-7W		
					84519-902-026	TUNER	ECC-2885 PLE G-7 CABLE		
				FL406	84529-310-012	CERAMIC-FILTER	SFE-5.5MB		
				FL401	84529-401-183	FILTER-LC	SLC-2100A		
				FL302	84529-48-041	SAW FILTER	TSF-1303		
				FL401	84529-421-021	CERAMIC-TRAP	TPS-5.5MB		
					84543-803-110	SHIELD CASE BODY	SPTE T0.25 (G-7W PAL)		
					84543-803-410	SHIELD CASE TOP	SPTE T0.25 (G-7W PAL)		
					84544-810-610	SHIELD CASE BOT	SPTE T0.25 (G-7W PAL)		
				L405	82427-814-101	COIL-PEAKING AXIAL	BAL03 TAPG 101K		

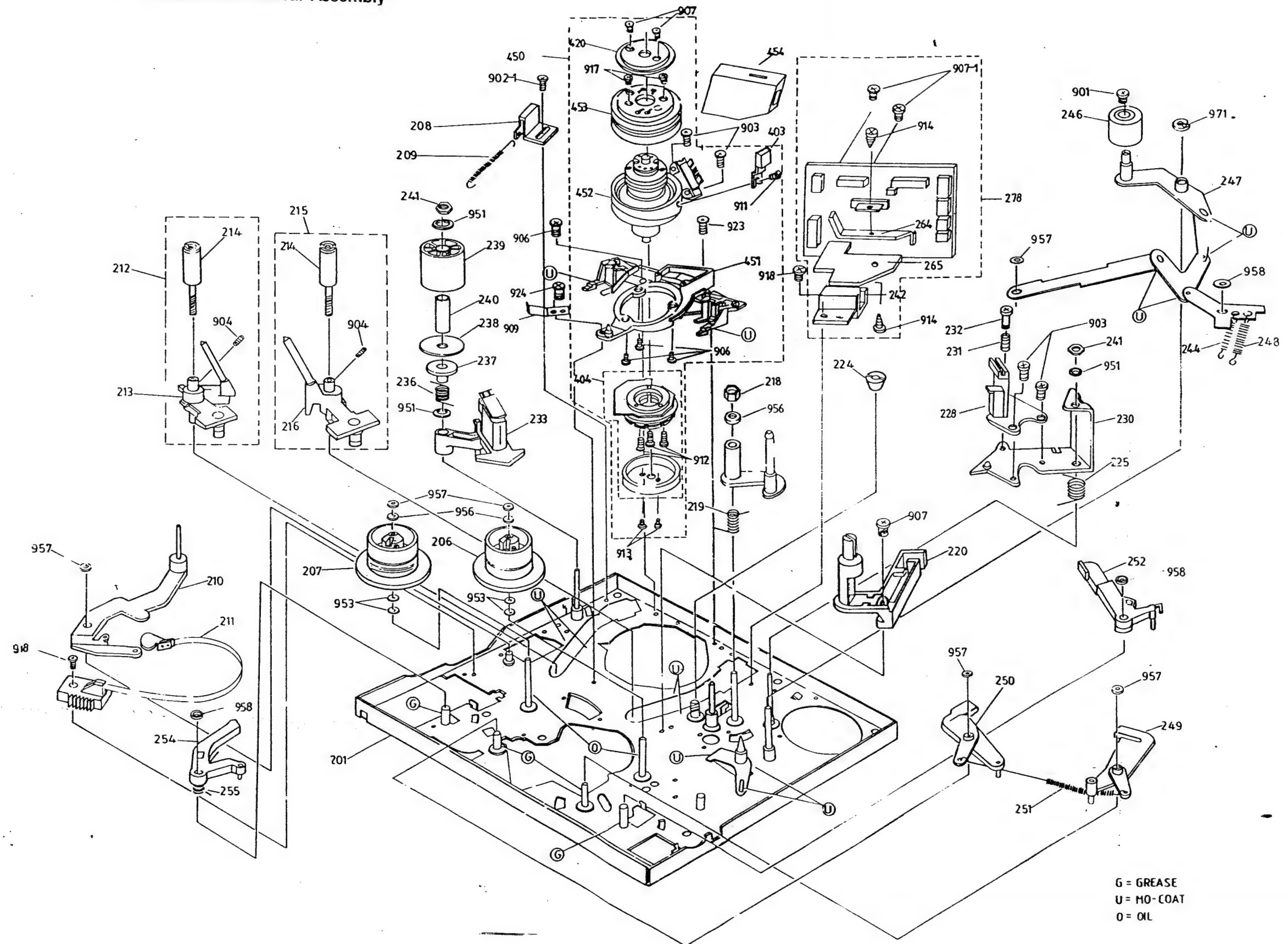
LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS	LOCA NO	CODE NO	DESCRIPTION	SPECIFICATION	REMARKS
FL409	82569-002-107 84529-421-020	PAL G RF MODULATOR CERAMIC TRAP	RUS-2161AL TPS-8.0MB			84544-810-910 89000-270-114 83053-607-870 83349-710-050	CASE TOP PREAMP A/C HEAD ASSY LEAD CONNECTOR ASSY TERMINAL	SFTE 0.3T D7-PRI 4291081 #26 WHY 480 CAC02 5263T	
POWER-PART PAL (G-7)-A									
R123	80508-400-118	WIRE-SQ. COPPER	TA0.85N						
R128	81048-177-101	R-METAL FILM	RM 1/8TS 100-J						
R131	81048-177-103	R-METAL FILM	RM 1/8TS 10K-J						
R132	81048-177-103	R-METAL FILM	RM 1/8TS 10K-J						
R129	81048-177-152	R-METAL FILM	RM 1/8TS 15K-J						
R124	81048-277-271	R-METAL FILM	RM 1/4TS 270-J						
R125	81048-277-271	R-METAL FILM	RM 1/4TS 270-J						
C124	81807-401-480	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M						
C123	81809-401-480	C-ELECTROLYTIC	CE04W 16V 220M						
C129	81807-401-479	C-ELECTROLYTIC	CE04W 16V 47M						
C121	81808-152-331	C-ELECTROLYTIC	CE04W 25V 330M						
C122	81808-152-331	C-ELECTROLYTIC	CE04W 25V 330M						
Q108	82137-302-740	TRANSISTOR	KSC 945-Y TAPG						
Q111	82137-701-013	TRANSISTOR	KSR 1004 TAPG						
Q113	82137-701-013	TRANSISTOR	KSR 1004 TAPG						
Q114	82137-701-013	TRANSISTOR	KSR 1004 TAPG						
Q110	82149-101-500	TRANSISTOR	KT4968Y						
Q112	82149-101-500	TRANSISTOR	KT4968Y						
Q105	82149-202-080	TRANSISTOR	KS8772						
Q109	82149-301-750	TRANSISTOR	KTC2236Y						
Q107	82149-301-750	TRANSISTOR	KTC2236Y						
ZD105	82188-403-390	DIODE-ZENER	RD8.1 EB2						
ZD104	82188-403-781	DIODE-ZENER	RD12EB2						
D109	82188-408-482	DIODE	1N4148 SAMSUNG						
D110	82188-408-482	DIODE	1N4148 SAMSUNG						
D112	82188-408-482	DIODE	1N4148 SAMSUNG						
L105	82427-812-330	COIL-PEAKING	EL0807RA-330K (3.0UH) TAPG						
89000-270-101 ASSY-PRE AMP									
RC088	81048-177-101	R-METAL FILM	RM 1/8TS 100-J						
RC091	81048-177-102	R-METAL FILM	RM 1/8TS 1K-J						
RC095	81048-177-103	R-METAL FILM	RM 1/8TS 10K-J						
RC089	81048-177-151	R-METAL FILM	RM 1/8TS 150-J						
RC090	81048-177-151	R-METAL FILM	RM 1/8TS 150-J						
RC082	81048-177-151	R-METAL FILM	RM 1/8TS 150-J						
RC098	81048-177-151	R-METAL FILM	RM 1/8TS 150-J						
RC093	81048-177-152	R-METAL FILM	RM 1/8TS 15K-J						
RC094	81048-177-152	R-METAL FILM	RM 1/8TS 15K-J						
C3107	81407-105-300	C-CERAMIC TEMP	CC45 CH TAPG 50V 68-J						
C3109	81407-105-320	C-CERAMIC TEMP	CC45 CH TAPG 50V 82-J						
C3110	81417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z						
C3106	81417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z						
C3108	81417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z						
C3115	81417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z						
C3117	81417-109-140	C-CERAMIC HK	CK45 F TAPG 50V 0.01M-Z						
C3113	81507-121-511	C-POLYESTER	CO821M TAPG 100V 0.022M-J						
C3114	81507-121-511	C-POLYESTER	CO821M TAPG 100V 0.022M-J						
C3116	81807-401-440	C-ELECTROLYTIC	CE04W TAPG 16V 22M						
C3118	81807-401-460	C-ELECTROLYTIC (SG)	CE04W TAPG 16V 47M						
C3111	81807-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
R3112	81807-402-210	C-ELECTROLYTIC	CE04W TAPG 50V 1M						
IC0300	82119-101-730	IC	TA7772P						
DC005	82188-408-482	DIODE	1N4148 SAMSUNG						
DC006	82188-408-482	DIODE	1N4148 SAMSUNG						
L3001	82427-812-399	COIL-PEAKING	EL0808RA-399K (3.0UH) TAPG						
	83005-004-136	PWB-PRE AMP	VX-710 1.6TX110.5X130						
	83124-103-330	PIN-TEST POINT	BSW 1/4H P11.0 5N						
CN306	83349-801-060	CONNECTOR WAFER	5234-07A						
	83379-800-034	PC BOARD CONNECTOR	3024-04 AHPB						
	84544-810-810	CASE-BOTTOM-PREAMP	SFTE 0.3T						

7. MECHANICAL EXPLODED VIEWS

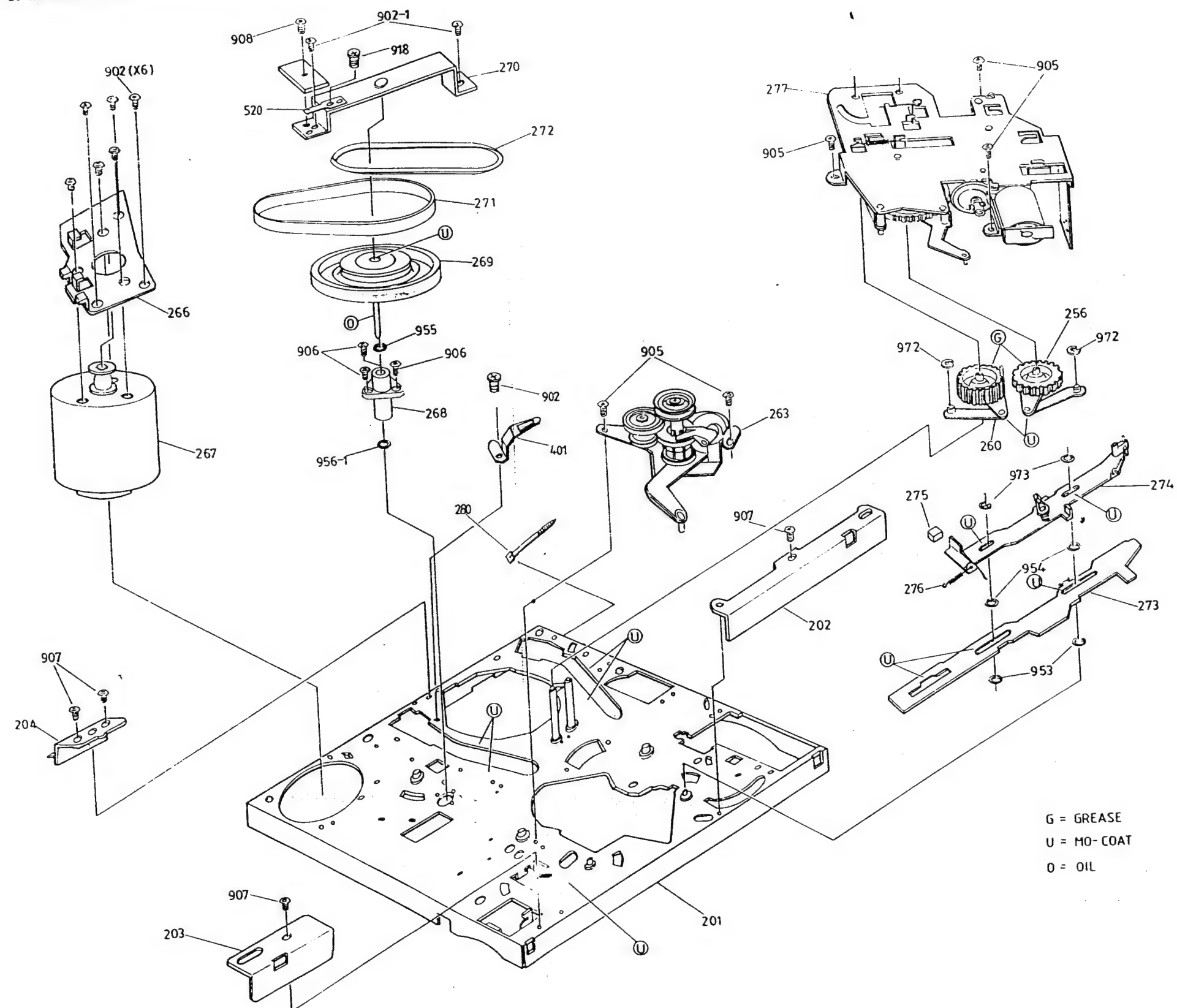
7-1. Instrument Assembly



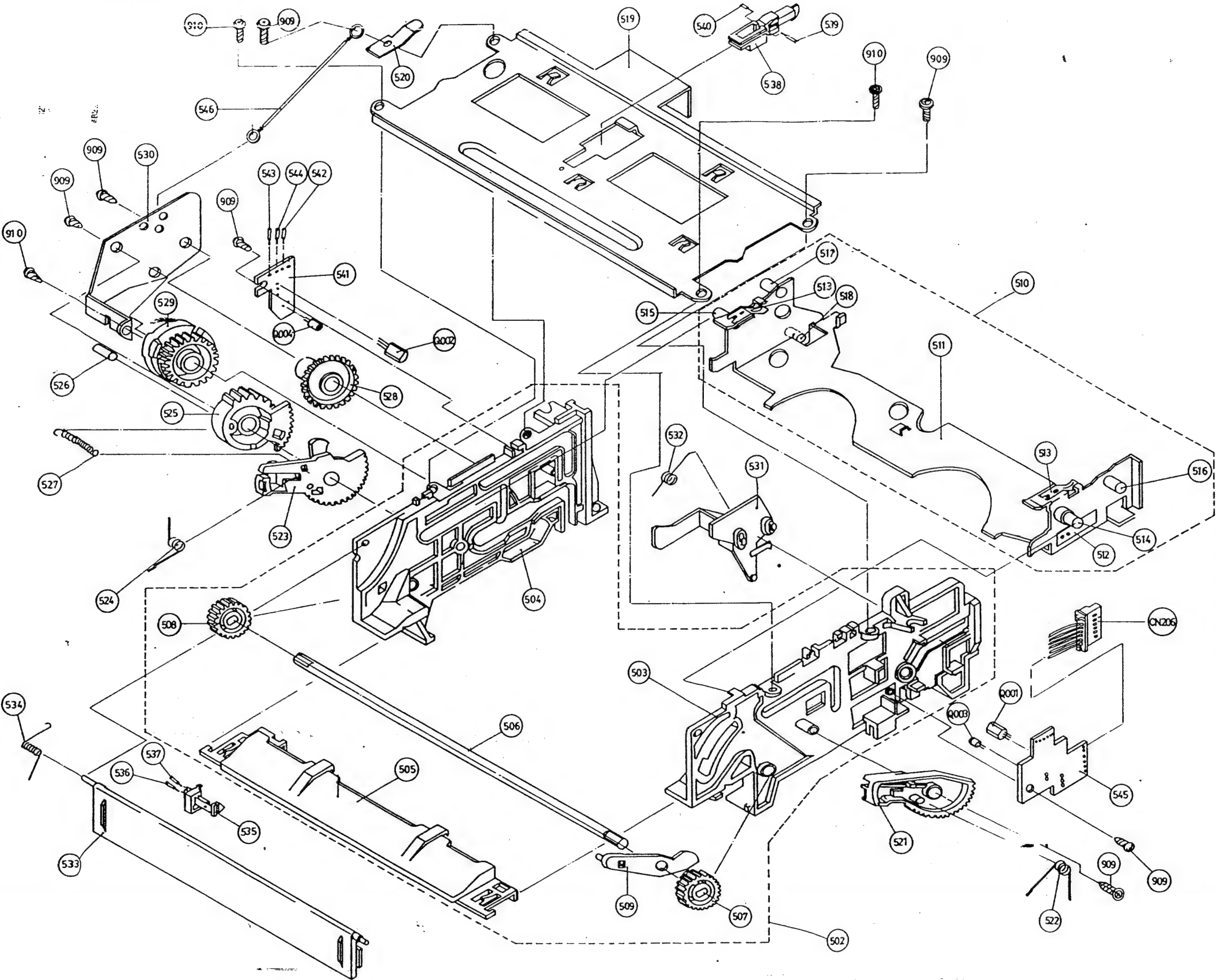
7-2. Transport Mechanical Assembly



7-3. Bottom Side Mechanical Assembly



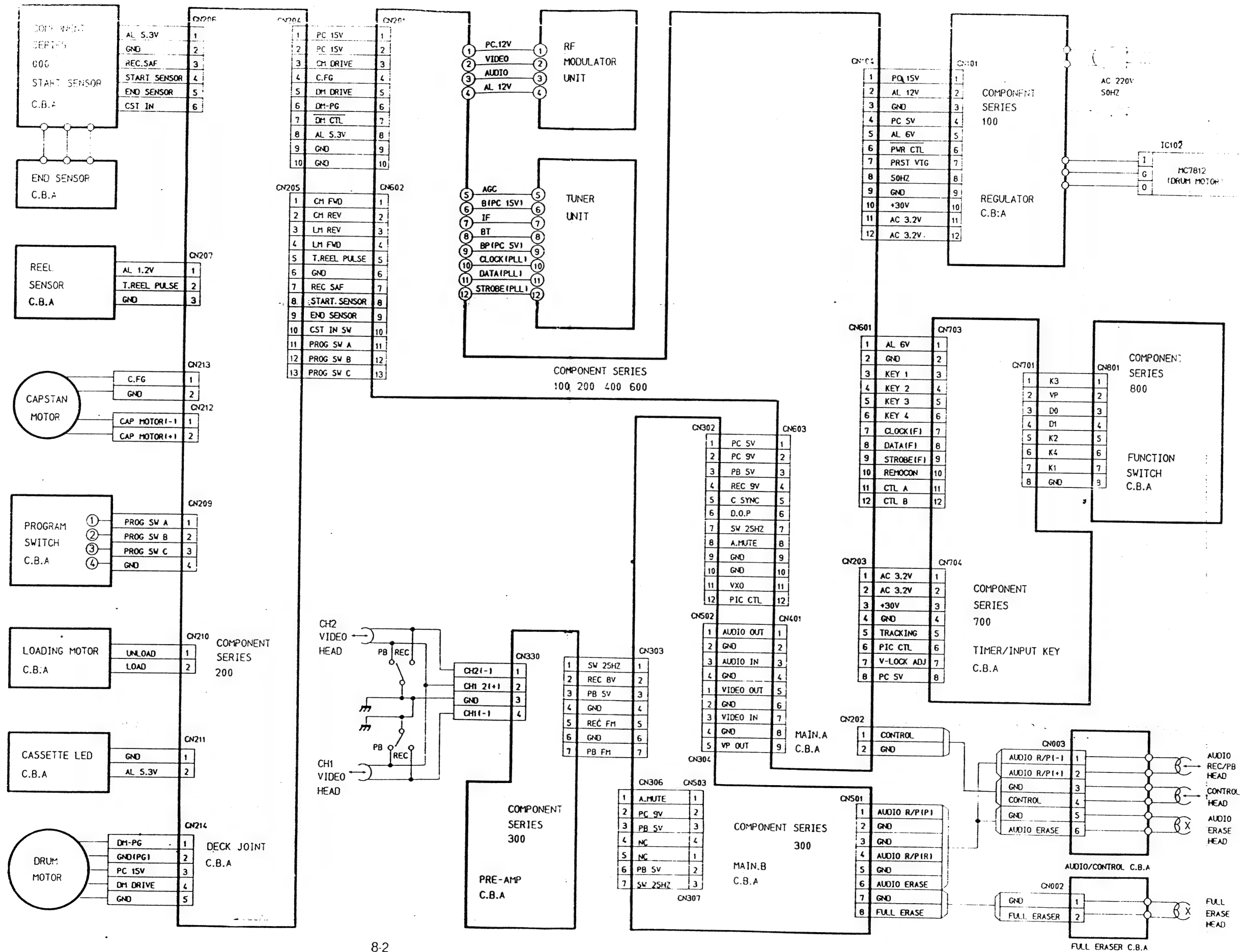
7-4. Housing Assembly



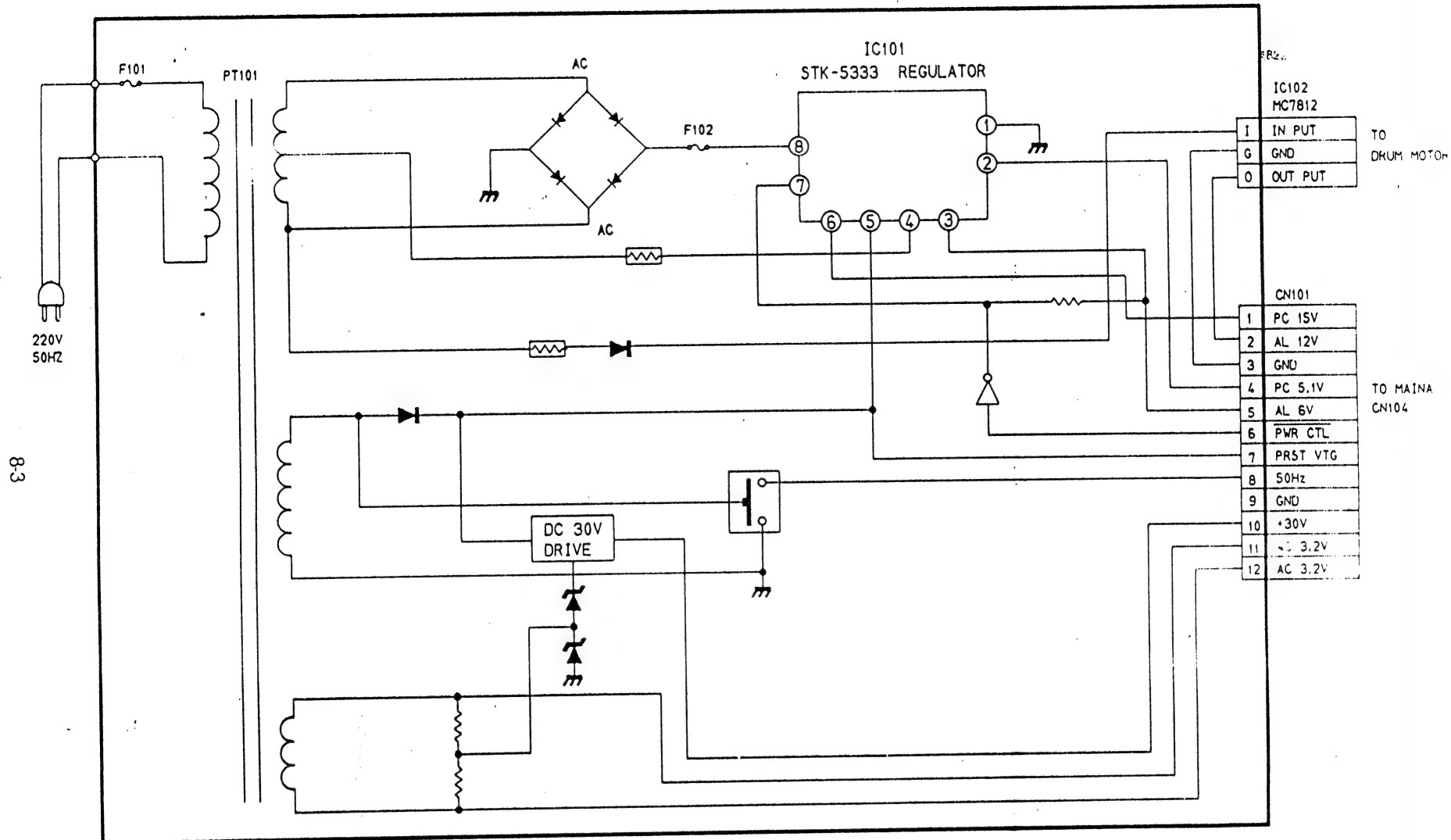
8. BLOCK DIAGRAM

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8-18. Capstan Speed Control	8-12
8-19. Capstan Phase Control	8-12

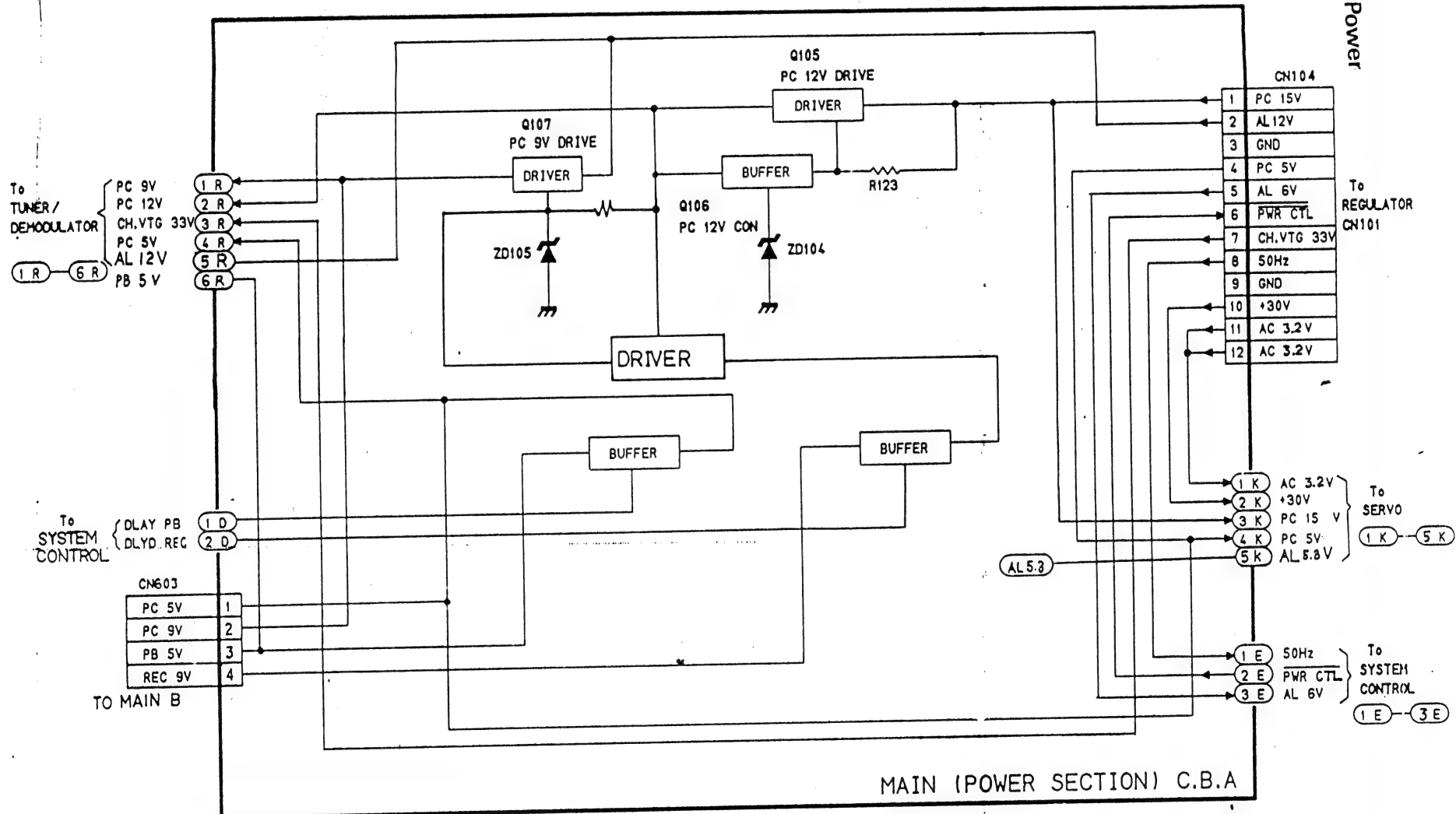
3-1. Total Wiring Diagram



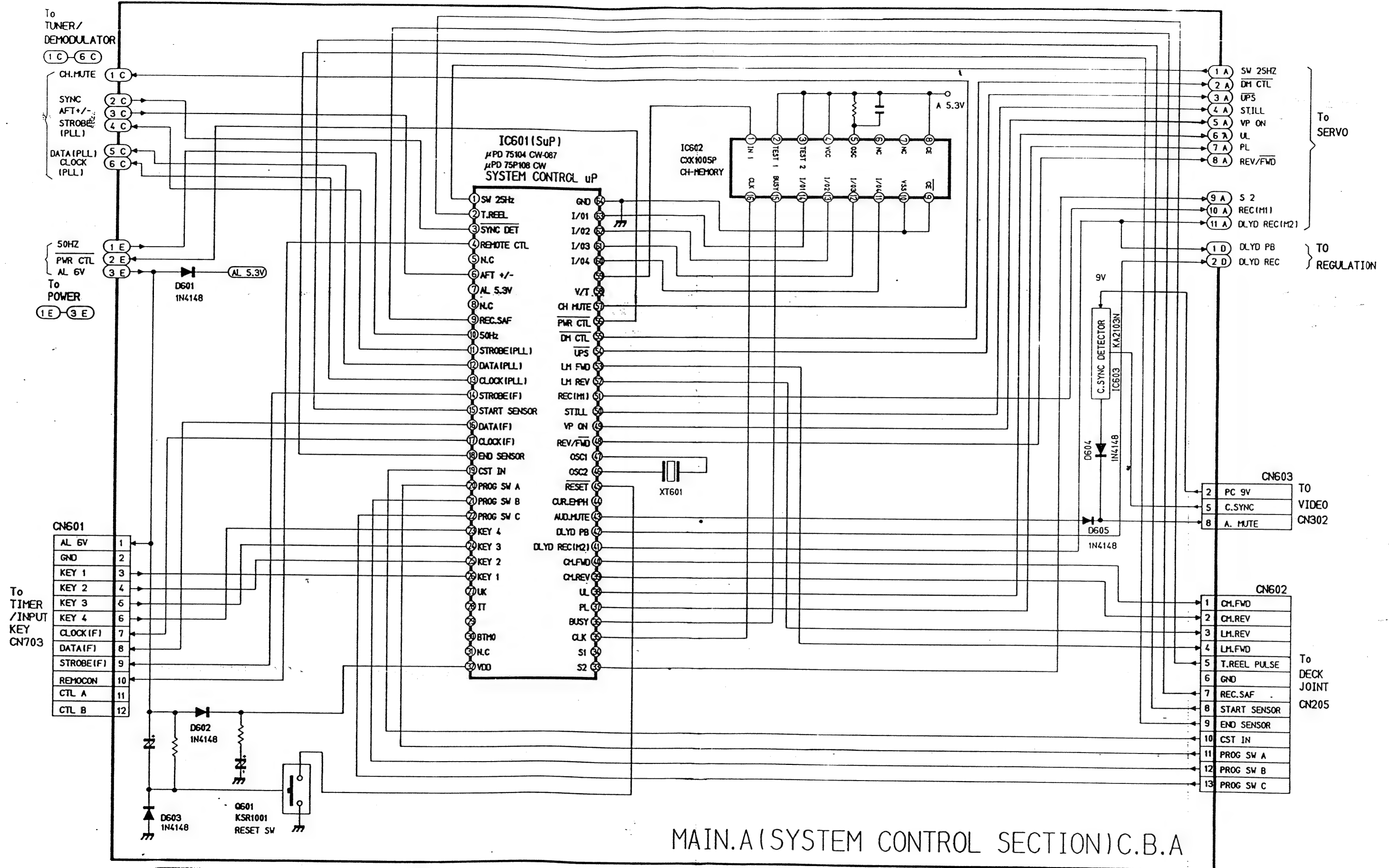
8-2 Regulator



8-3 Power

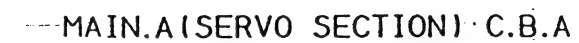


8-4. System Control

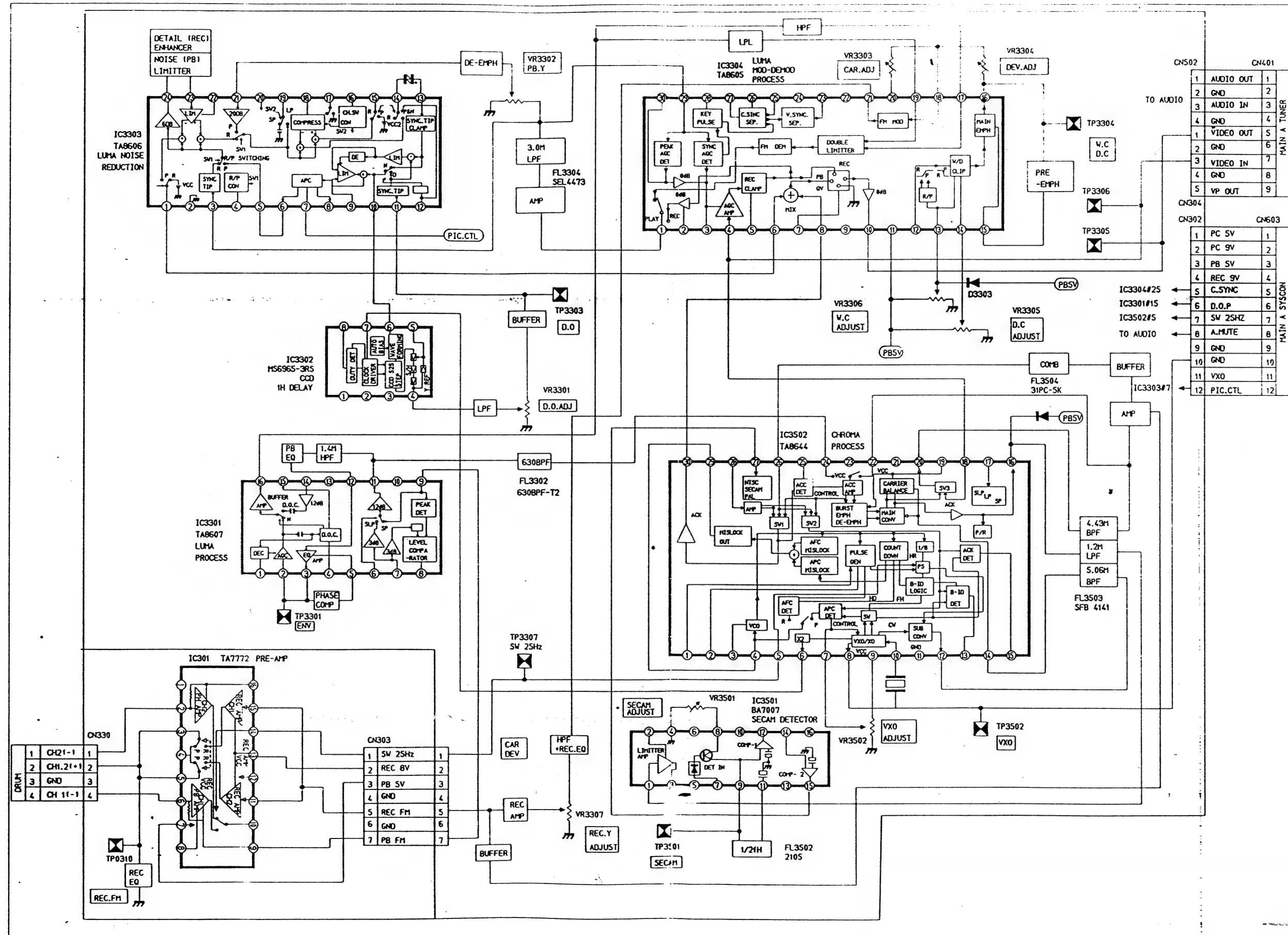


MAIN.A (SYSTEM CONTROL SECTION) C.B.A

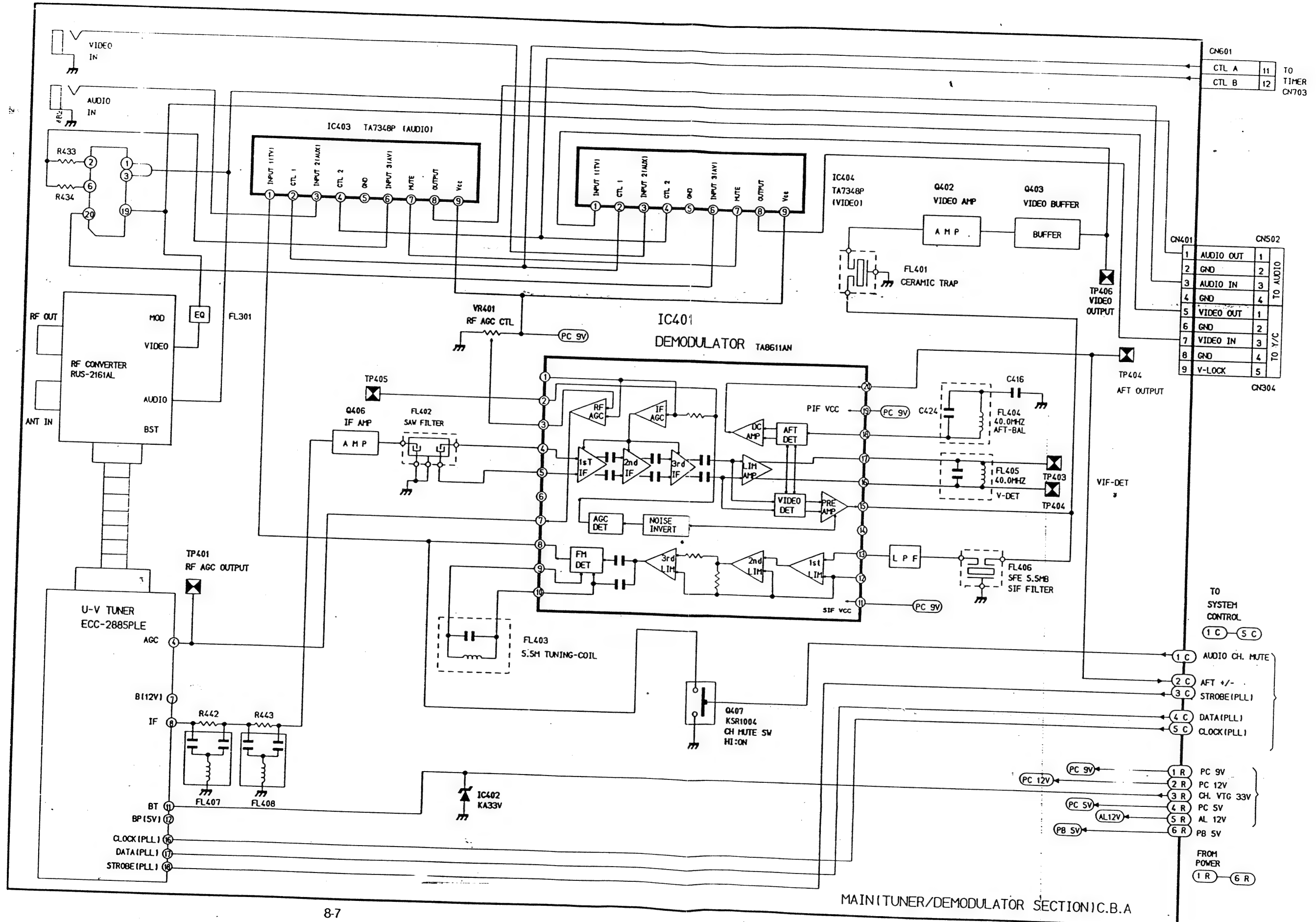
8-5

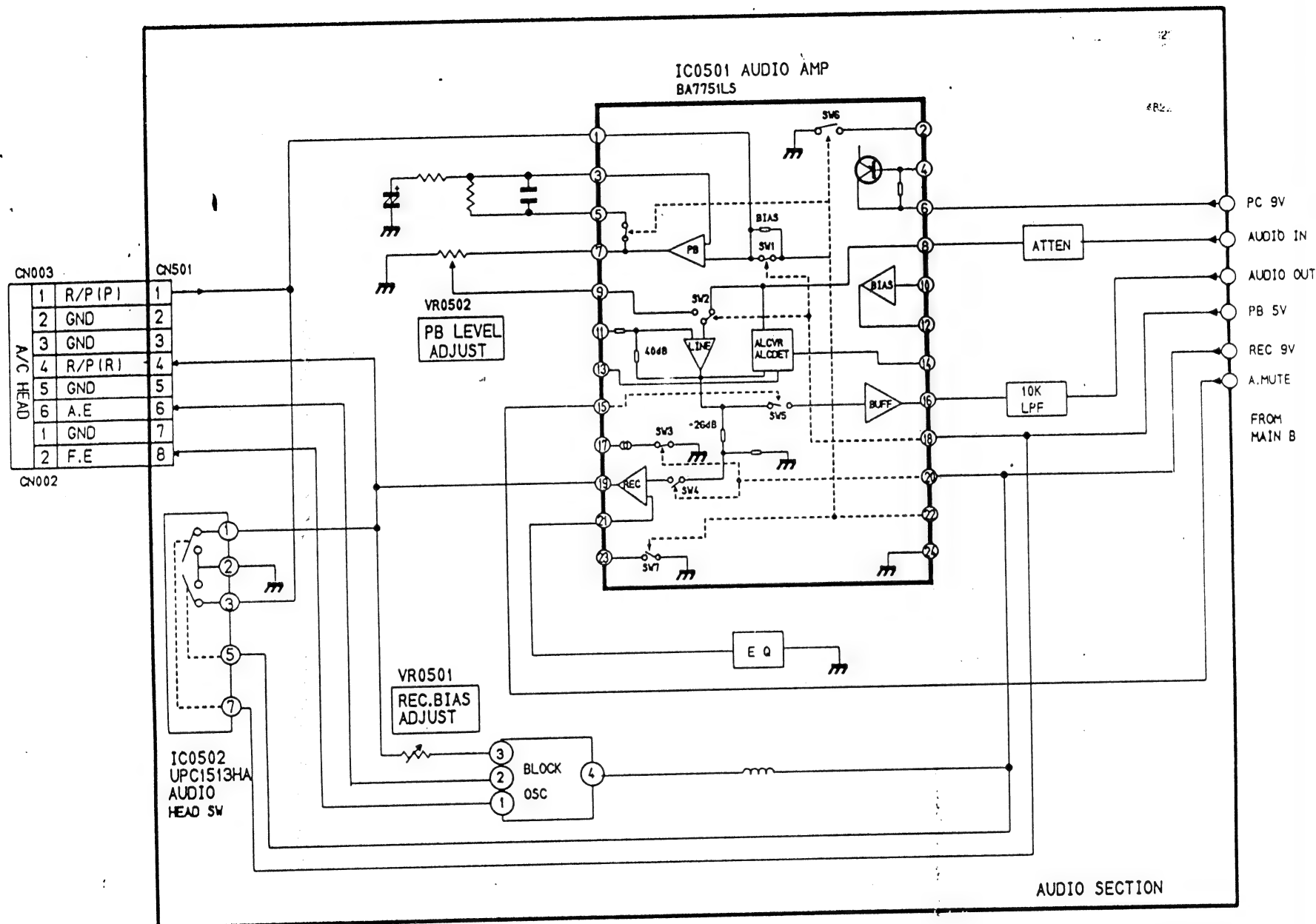


8-6. Luminance/Chrominance

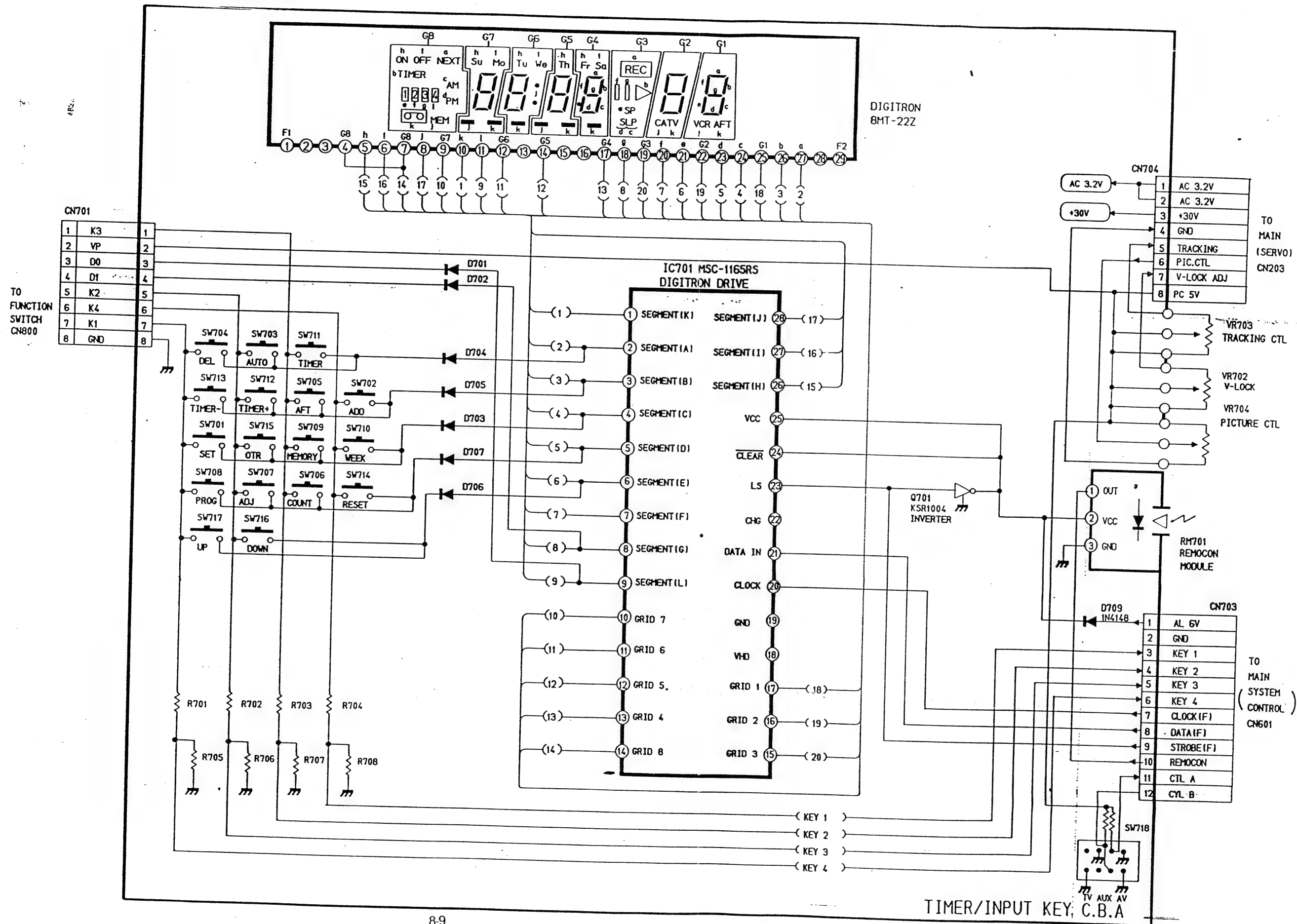


8-7. Tuner/Demodulator

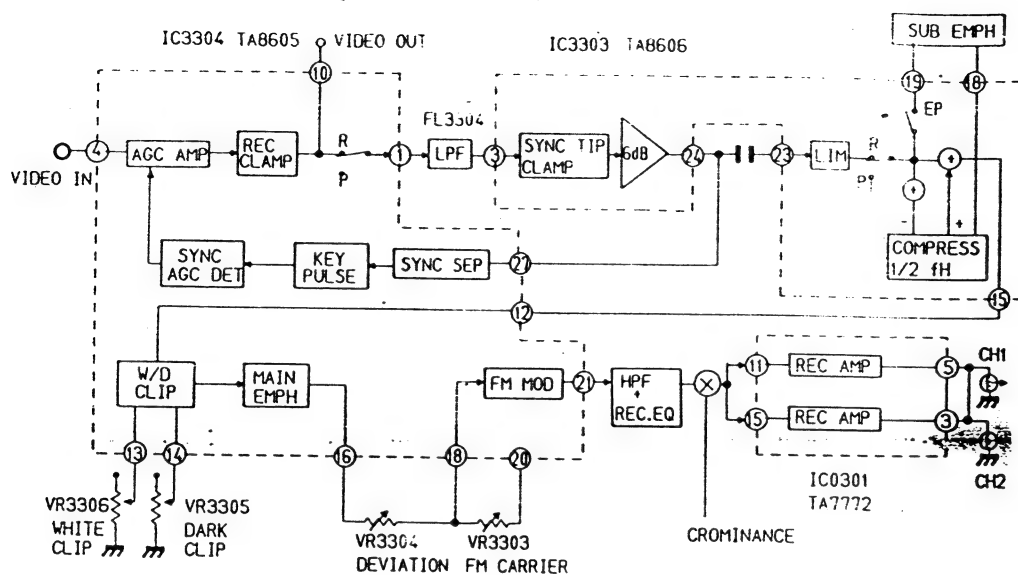




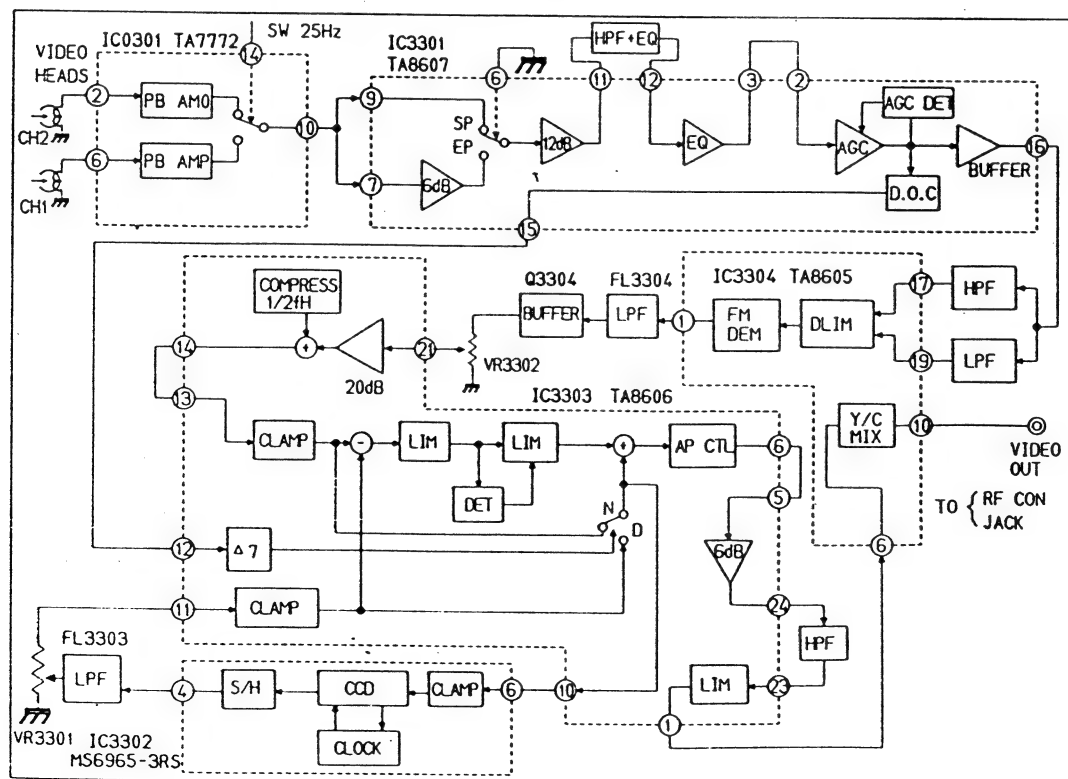
8-9. Timer/Input Key



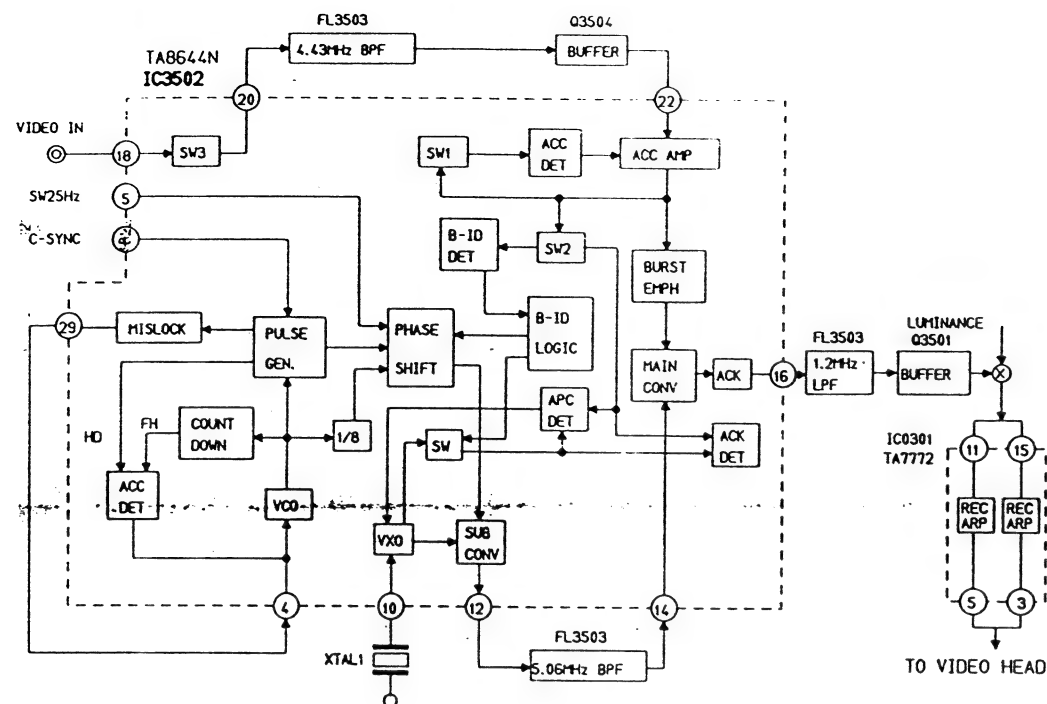
8-10. Luminance/Record Process



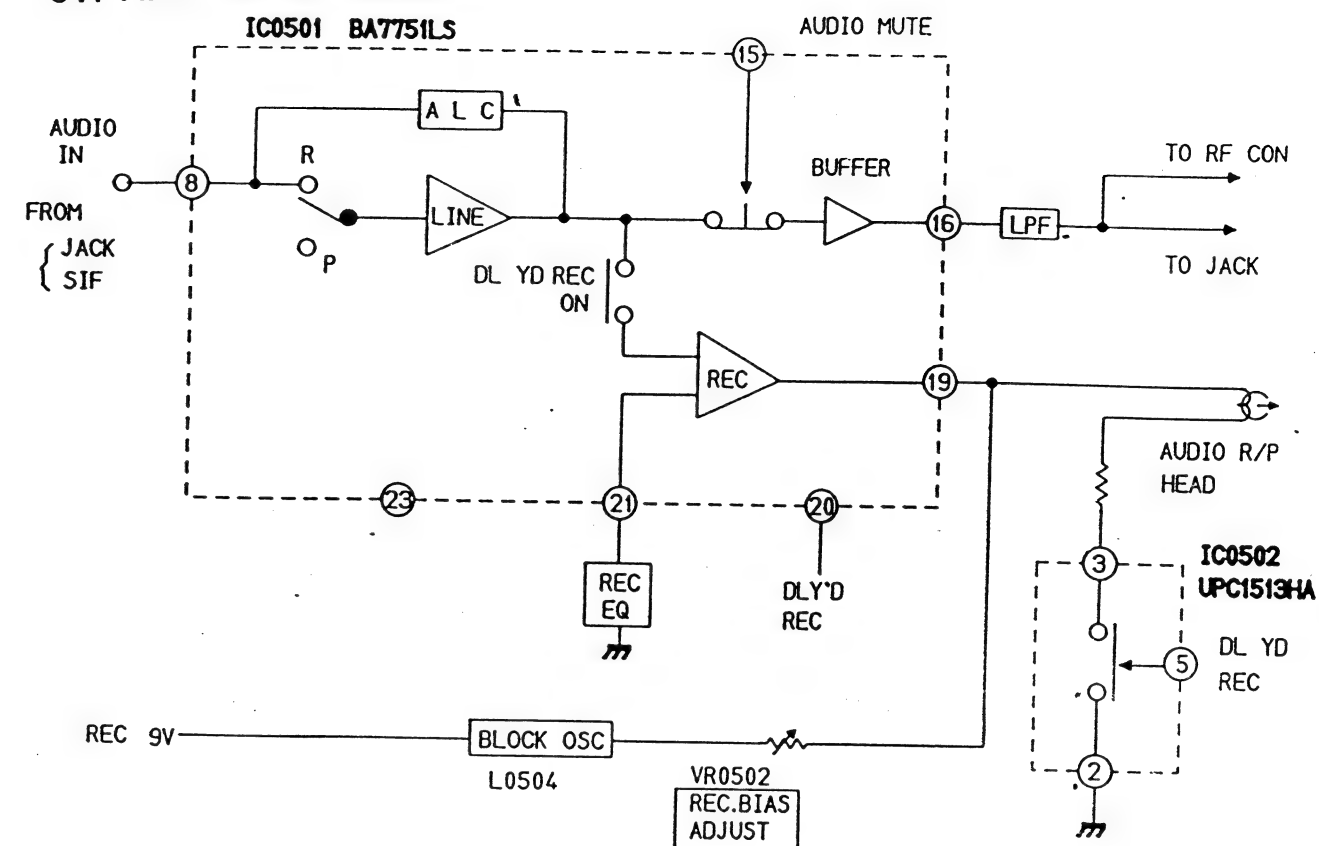
8-11. Luminance Playback Process



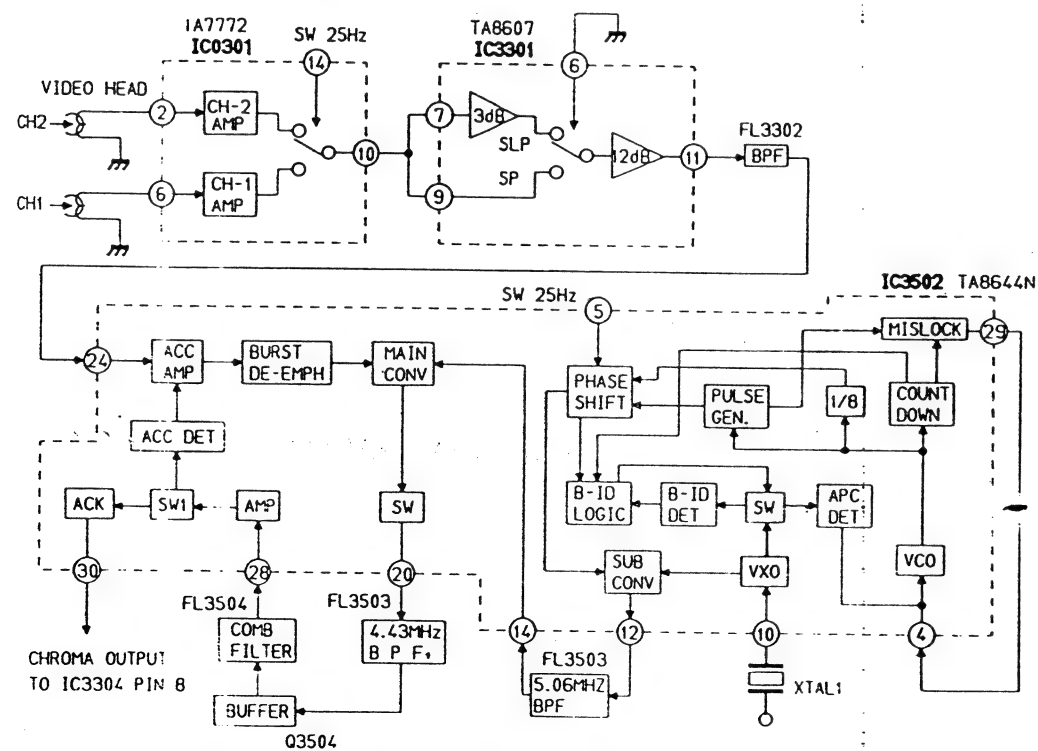
8-12. Chrominance Record Process



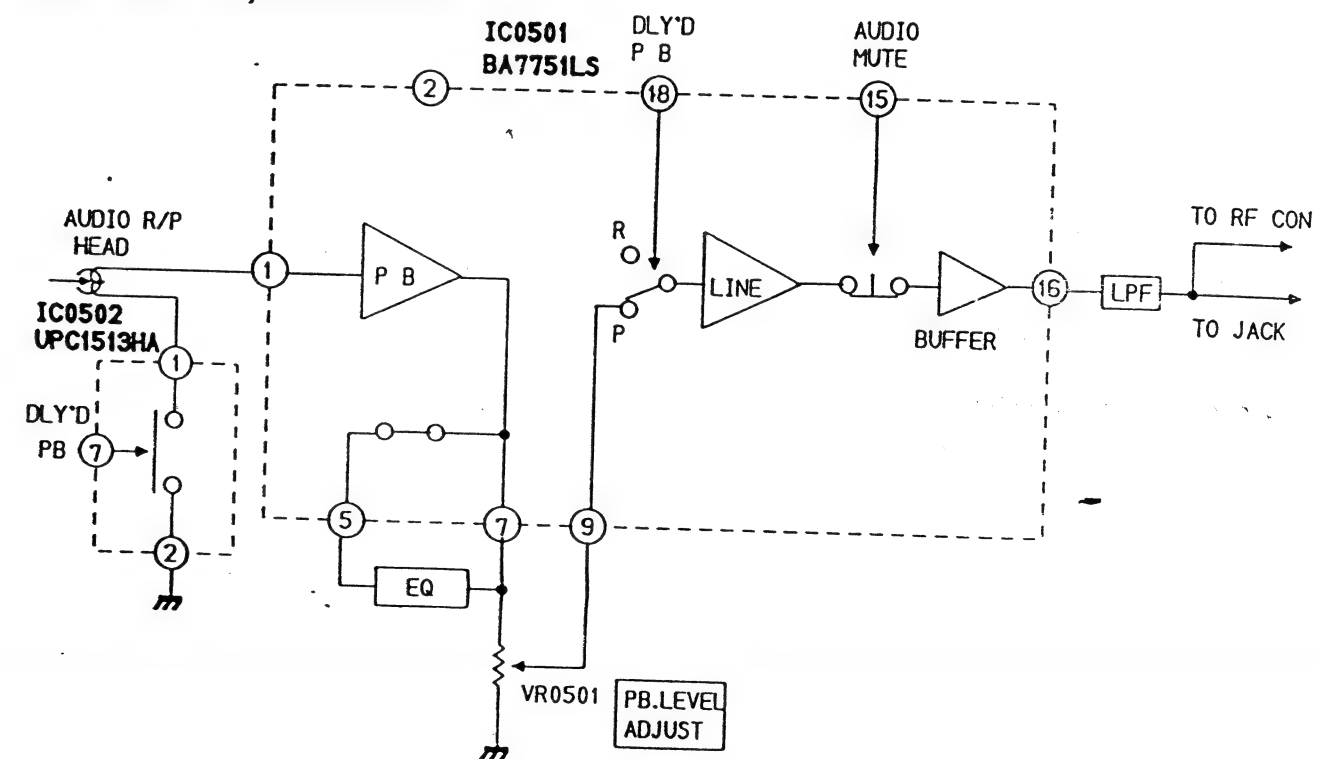
8-14 Audio Record Process



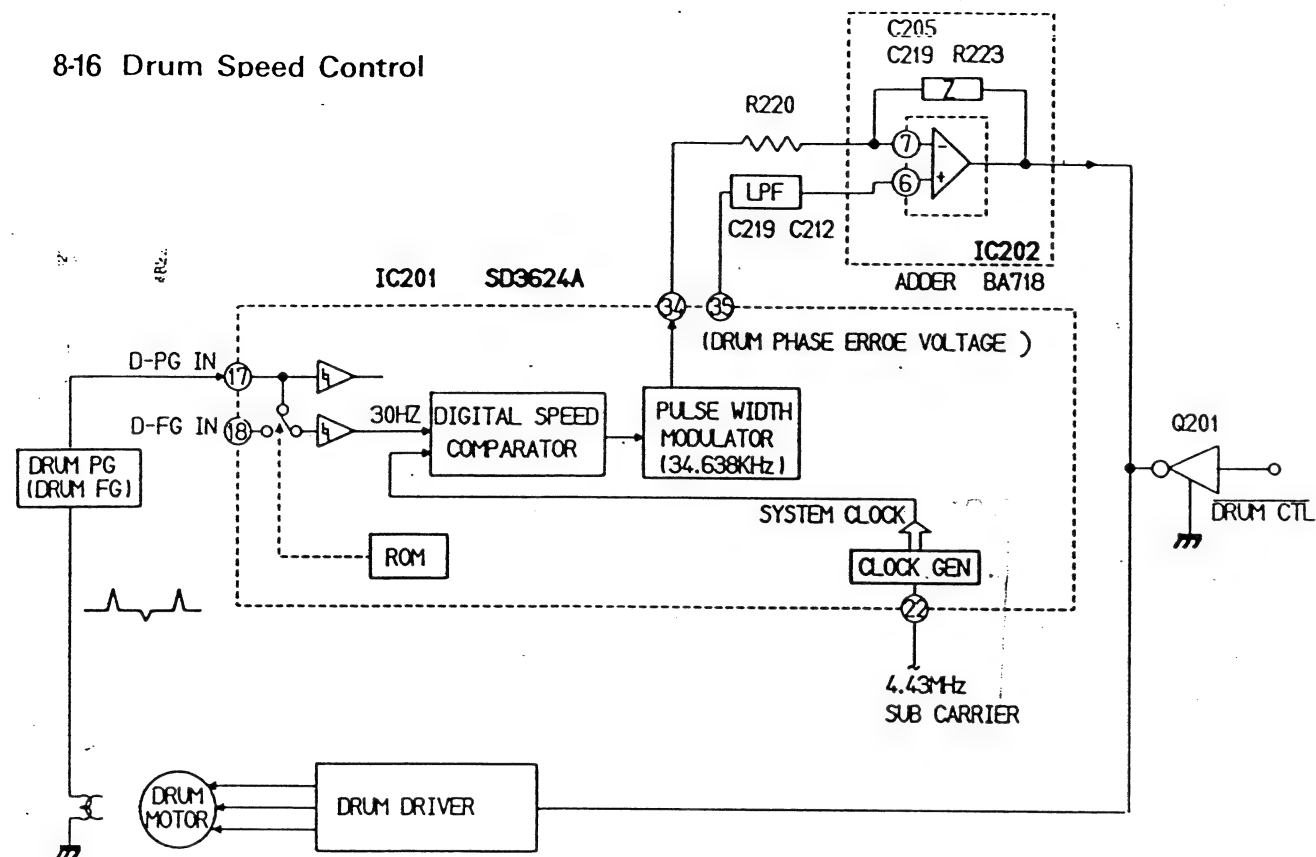
8-13. Chrominance Playback Process



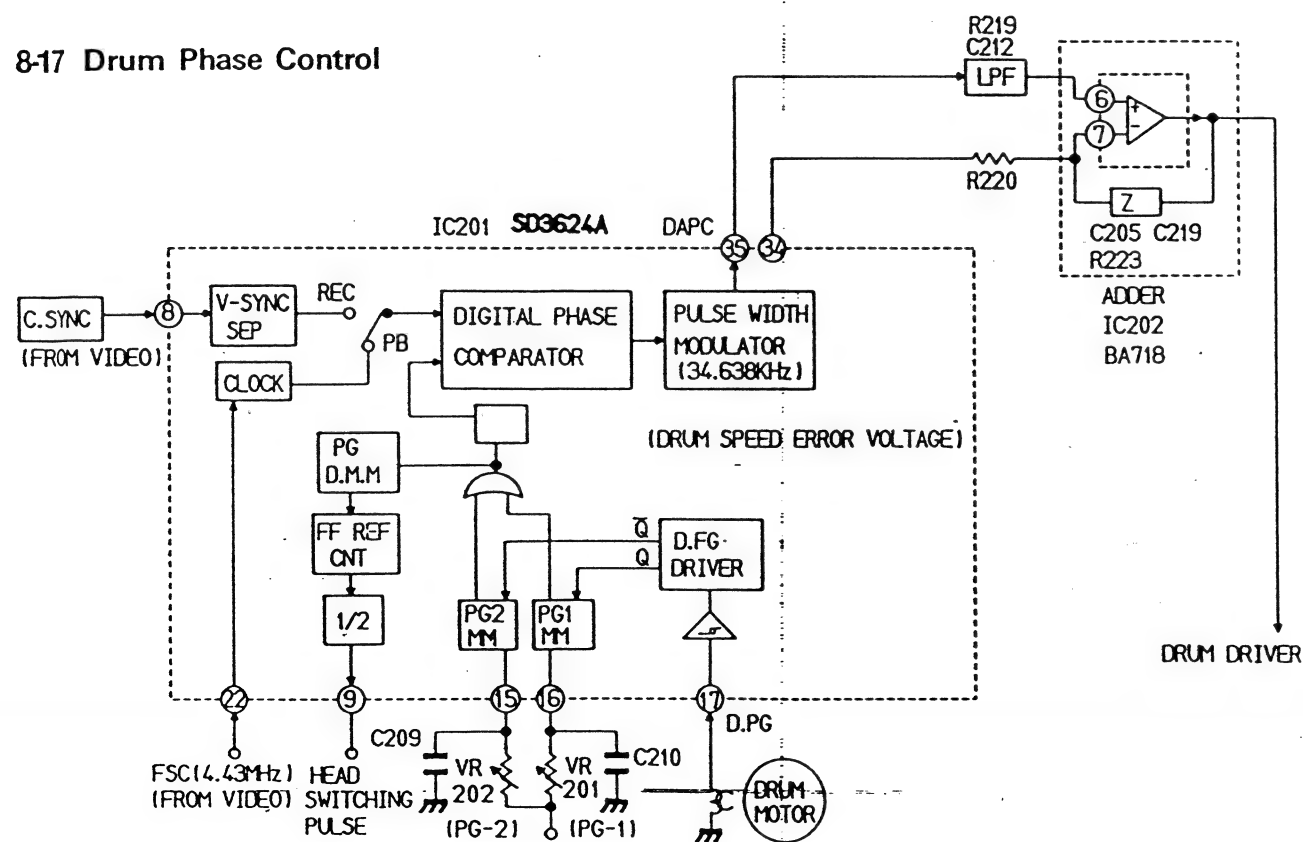
8-15 Audio Playback Process



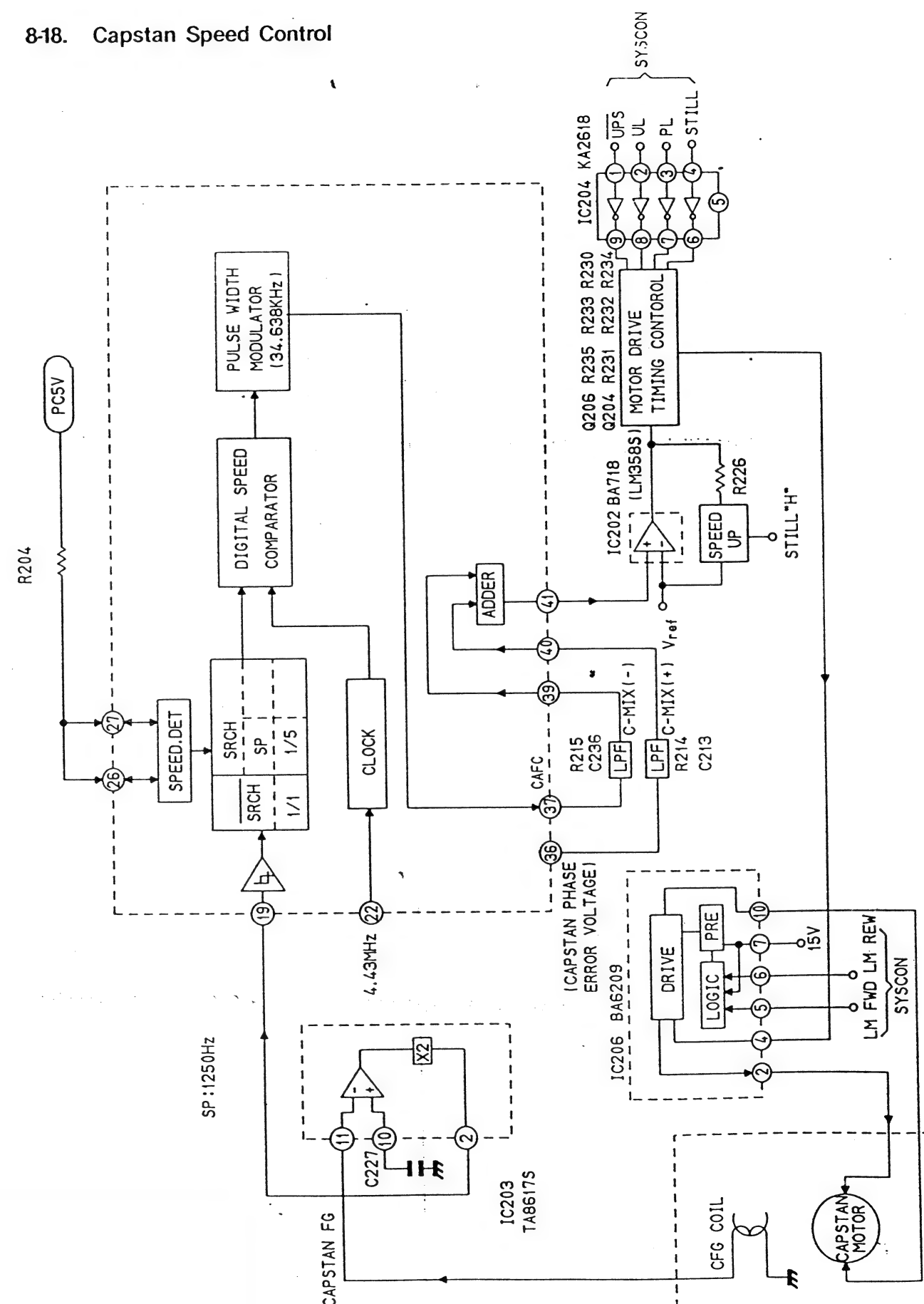
8-16 Drum Speed Control



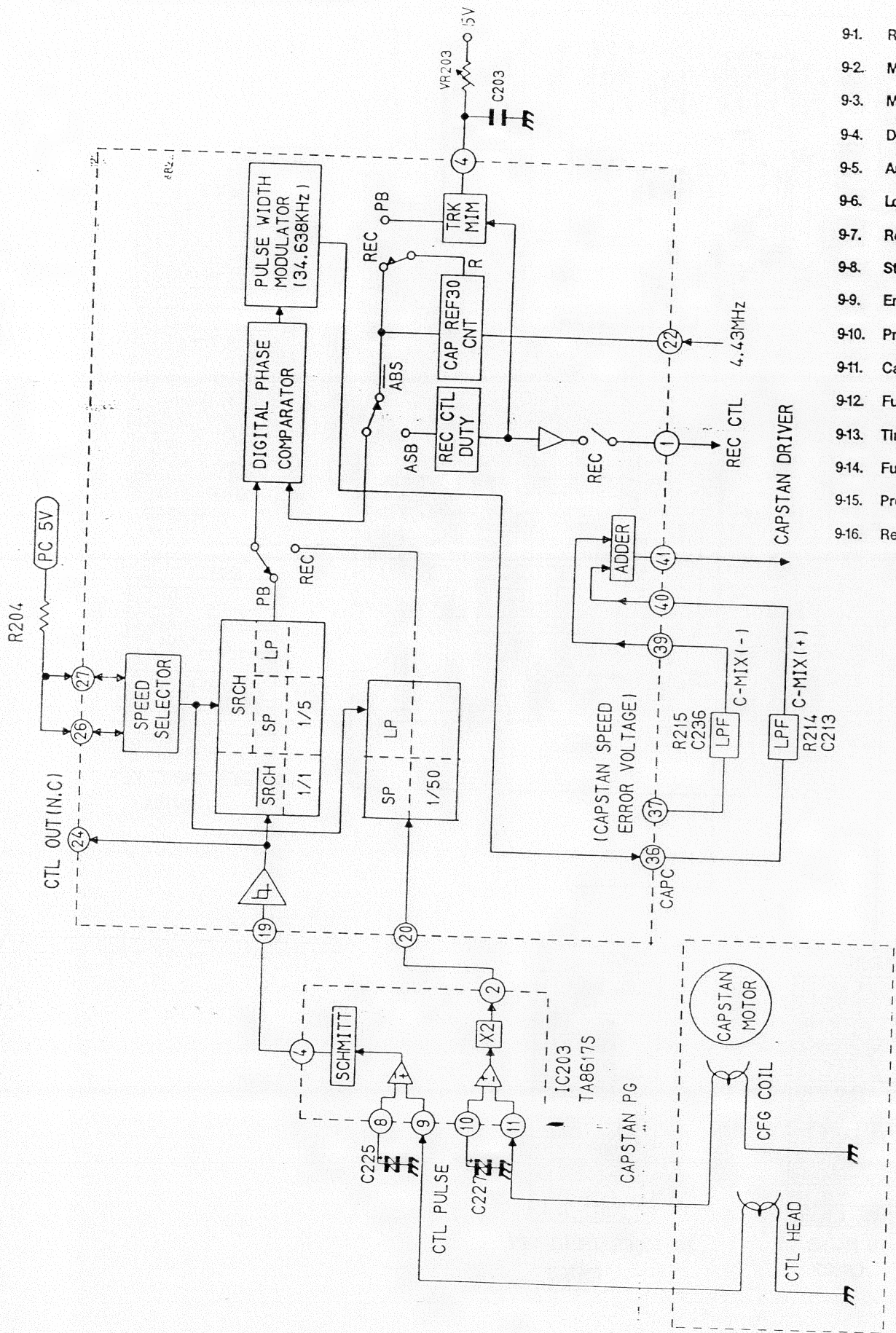
8-17 Drum Phase Control



8-18. Capstan Speed Control



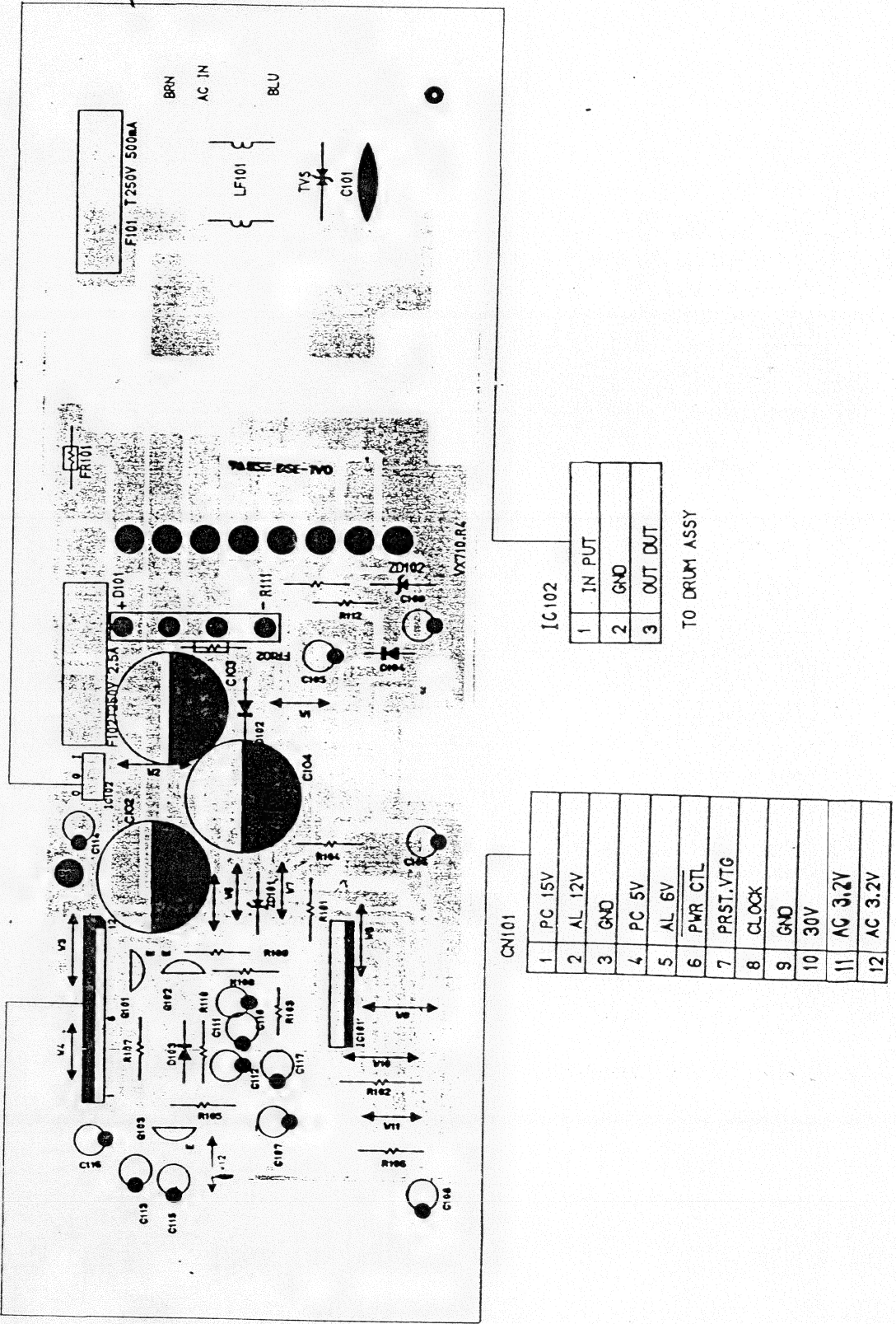
8-19. Capstan Phase Control

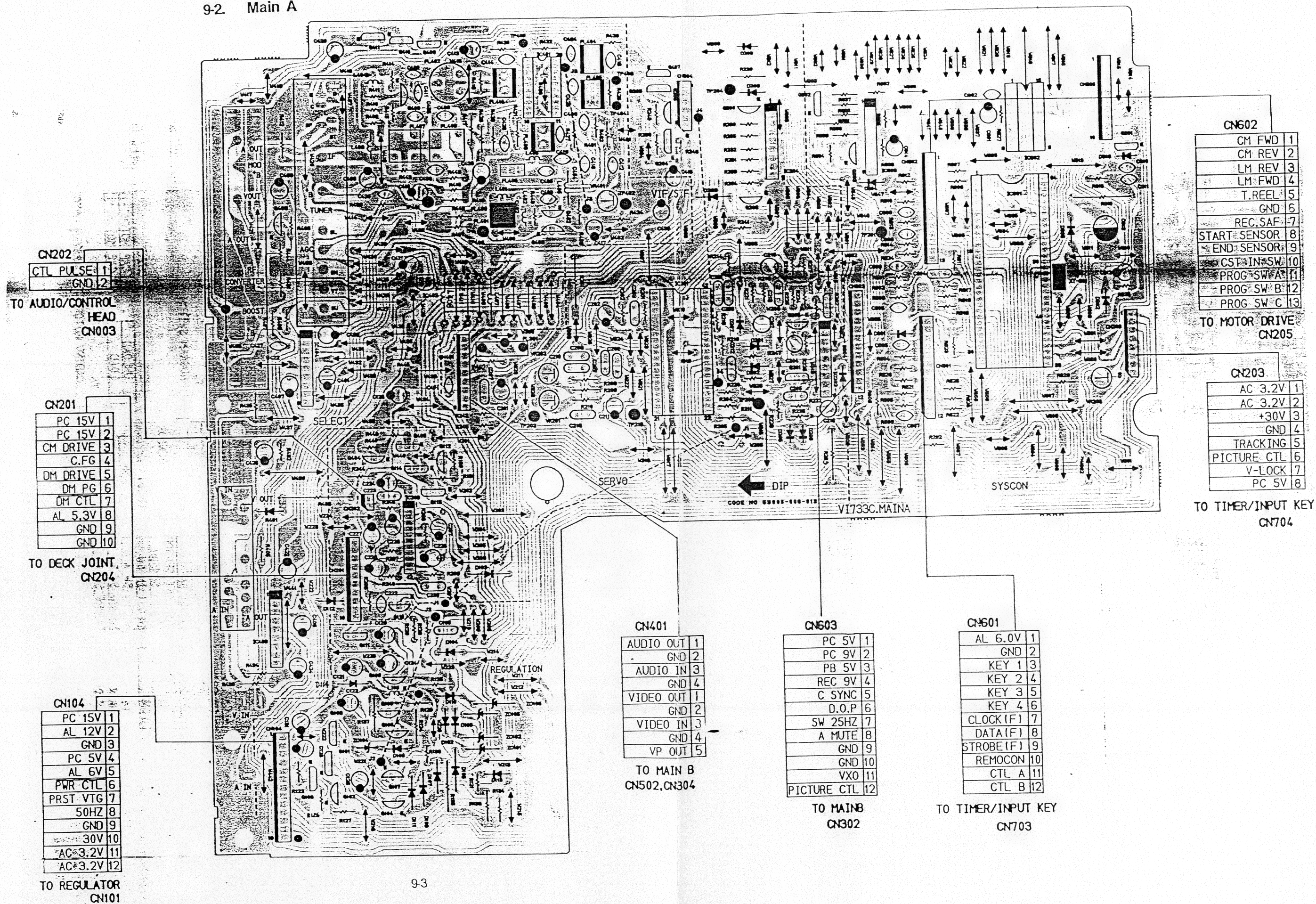


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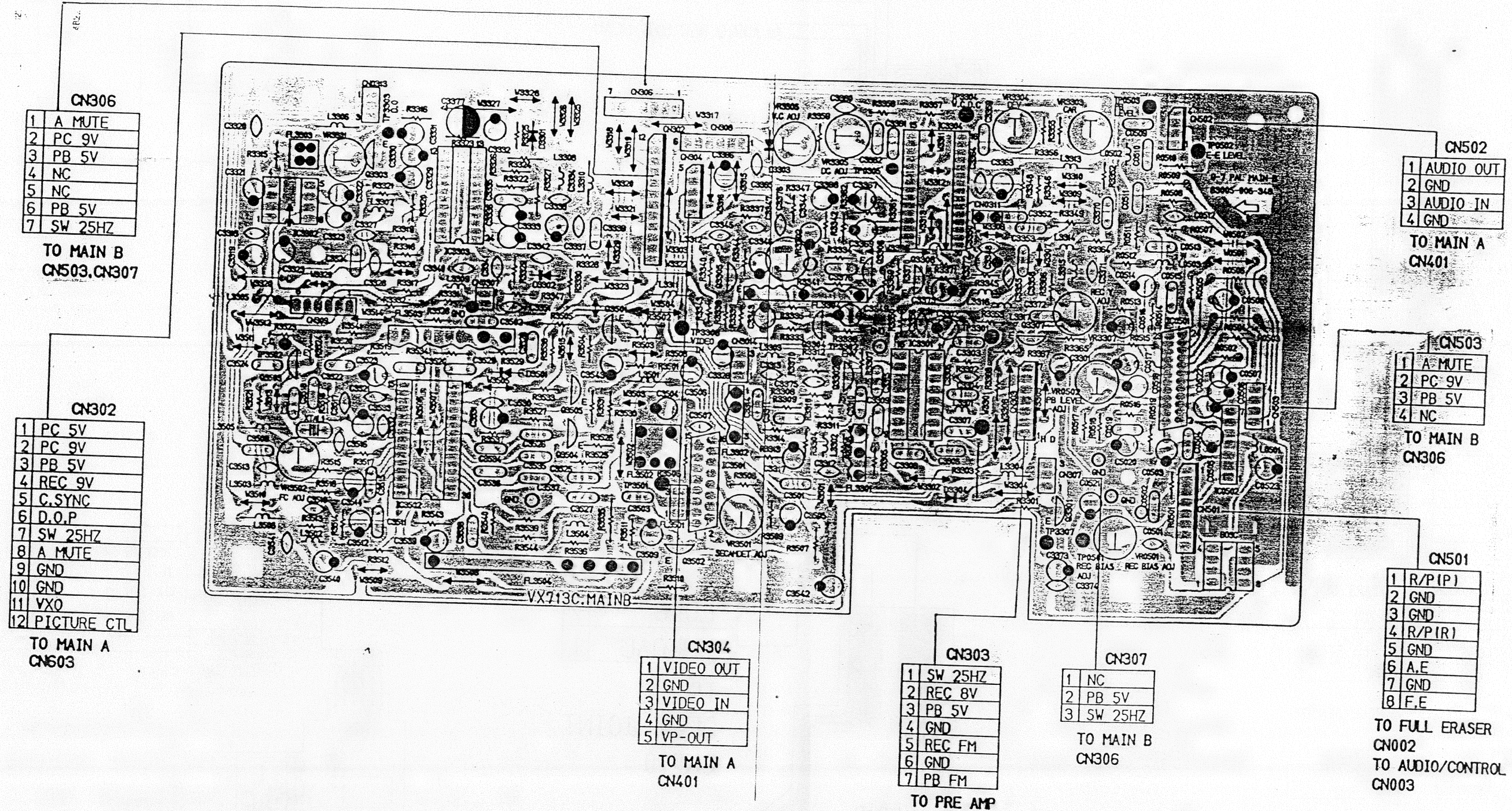
9-1

9-1. Regulator

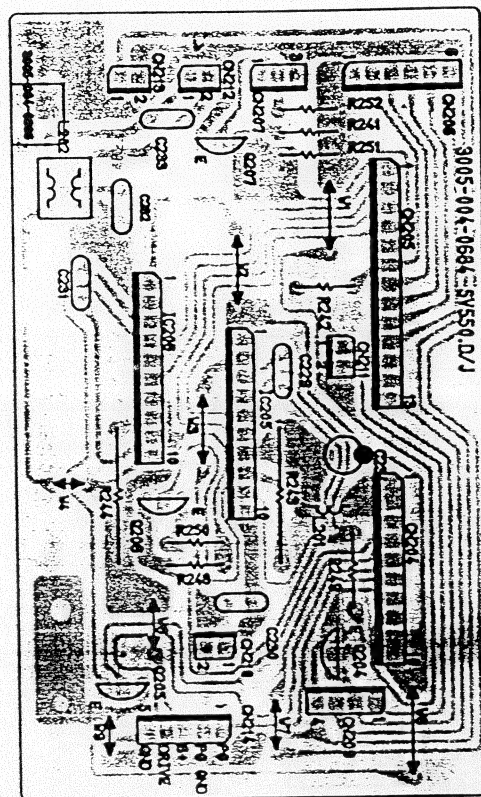




9-3. Main B



9-4. Deck Joint



CN204	CN205	CN206
1 PC 15 V	1 CM FWD	1 AL 5.3V
2 PC 15 V	2 CM REV	2 GND
3 CM DRIVE	3 LM REV	3 REC.SAF
4 CAP.FG	4 LM FWD	4 START SENSOR
5 DM DRIVE	5 T.REEL	5 END SENSOR
6 D. PG	6 GND	6 CST IN SW
7 DM CTL	7 REC.SAF	To
8 AL 5.3V	8 START SENSOR	START SENSOR
9 GND	9 END SENSOR	
10 GND	10 CST IN SW	

To
MAIN
CN201

CN209
1 PRG SW A
2 PRG SW B
3 PRG SW C
4 GND

To
PROGRAM SWITCH

CN210
1 UNLOAD
2 LOAD

To
LOADING MOTOR

CN211
1 GND
2 AL 5.3V

To
CASSETTE LED

CN212
1 CAP. MOTOR (-)
2 CAP. MOTOR (+)

To
CAPSTAN MOTOR

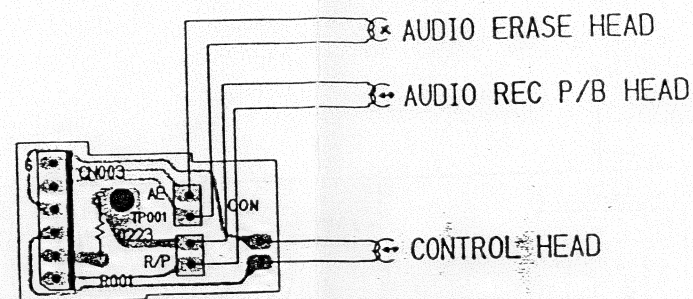
CN213
1 CAP.FG
2 GND

To
CAPSTAN MOTOR

CN214
1 D. PG
2 GND (PG)
3 PC 15 V
4 DM DRIVE
5 GND

To
DRUM MOTOR

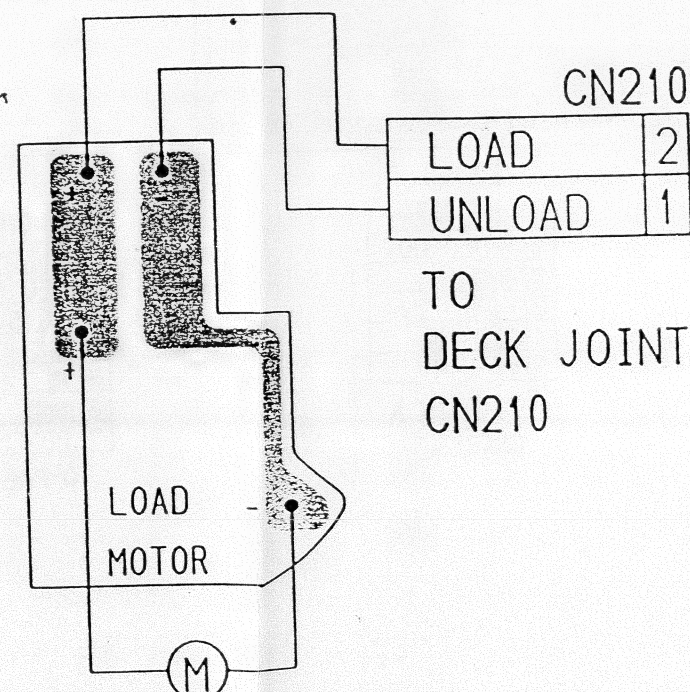
9-5. Audio/Control Head



CN003
1 AUDIO R/P (-)
2 AUDIO R/P (+)
3 GND
4 CONTROL
5 GND
6 AUDIO ERASE

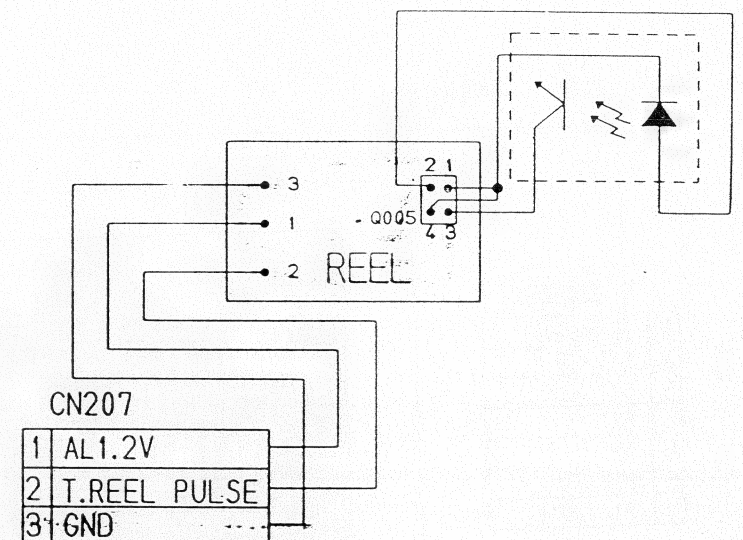
To
MAIN
CN202
CN302

9-6. Loading Motor



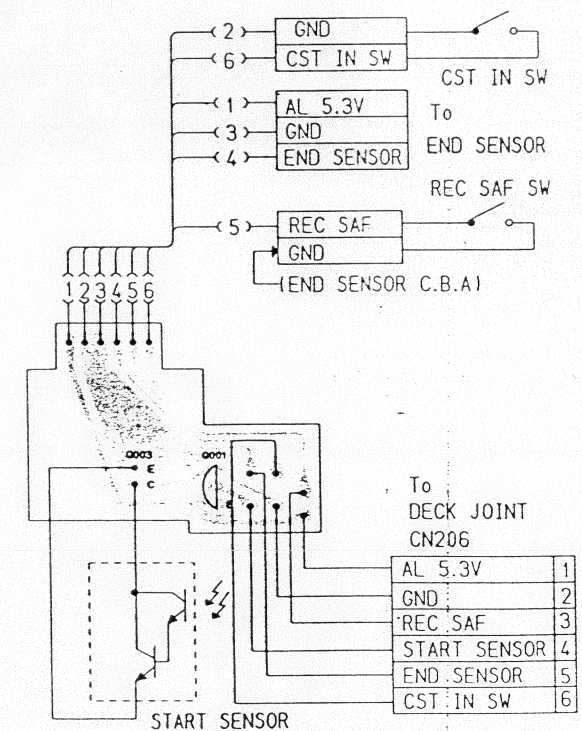
TO
DECK JOINT
CN210

9-7. Reel Sensor



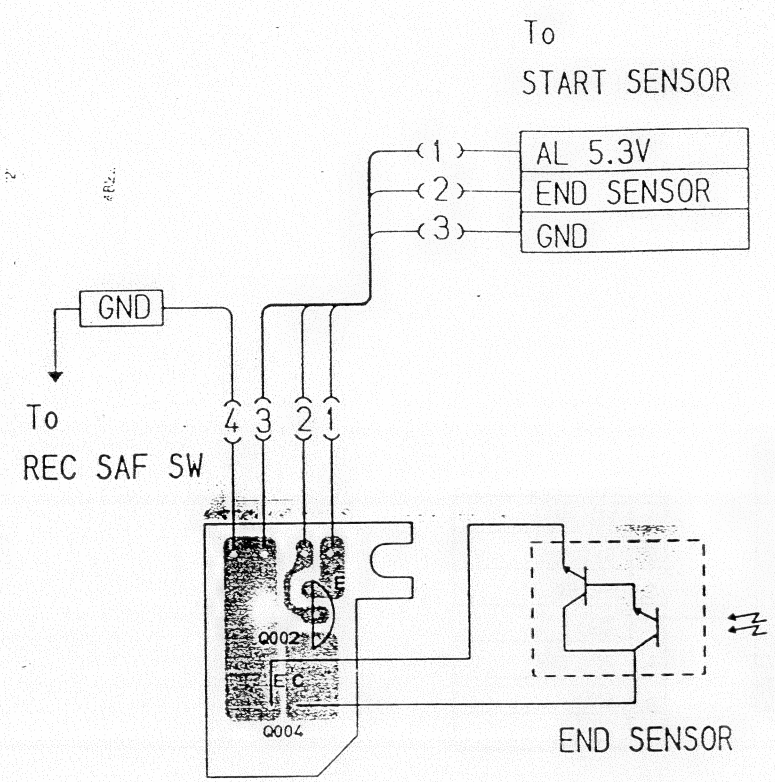
TO
DECK JOINT
CN207

9-8. Start Sensor

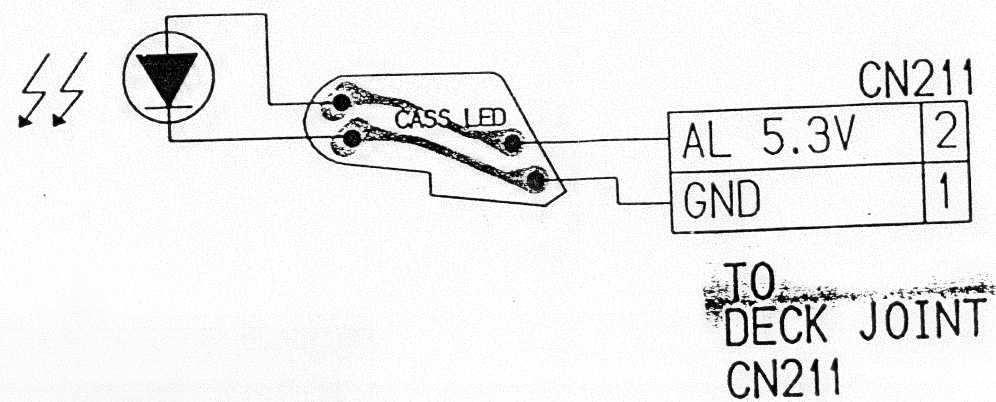


To
DECK JOINT
CN206

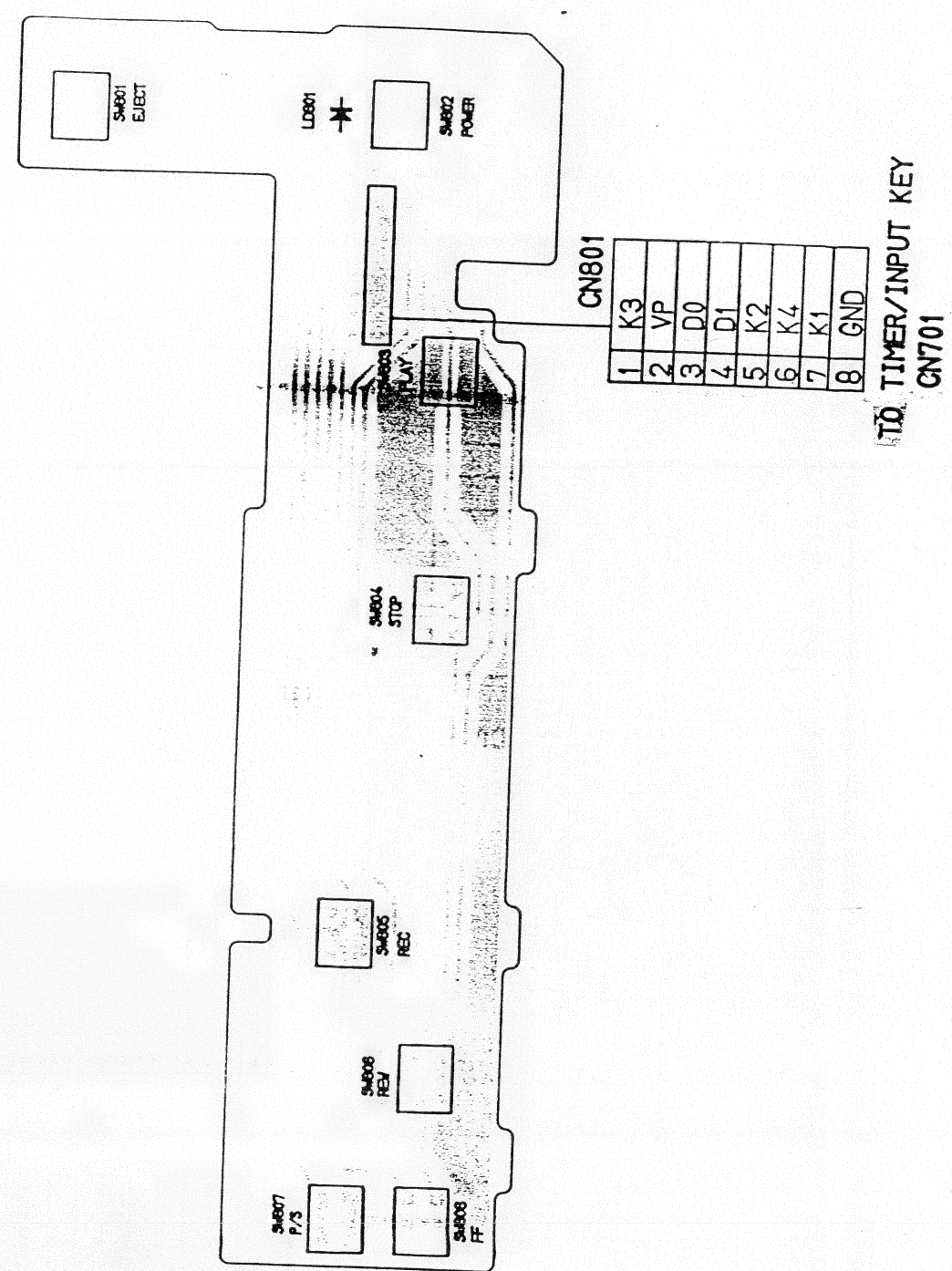
9-9. End Sensor



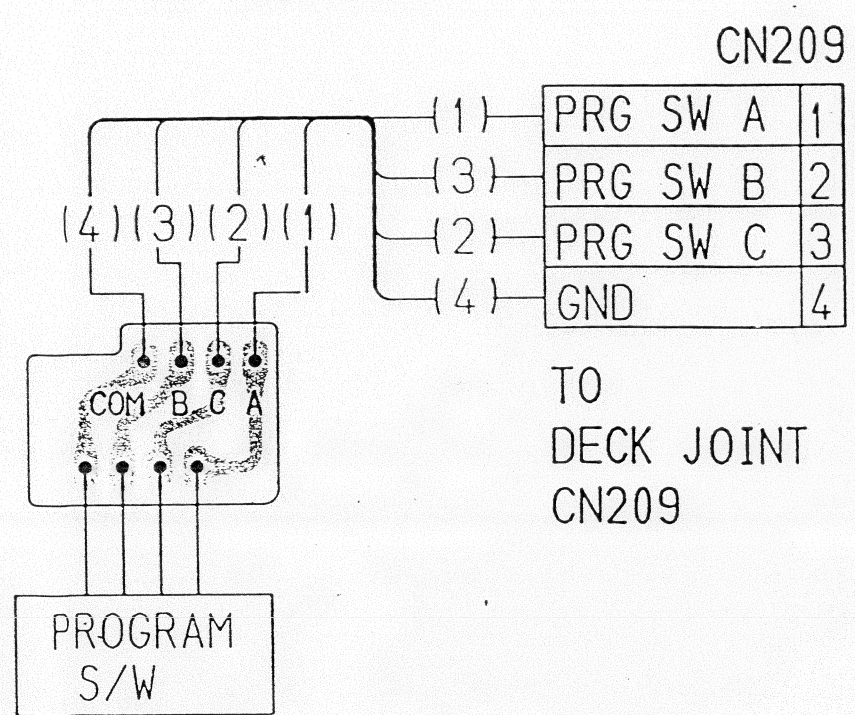
9-11. Cassette Led



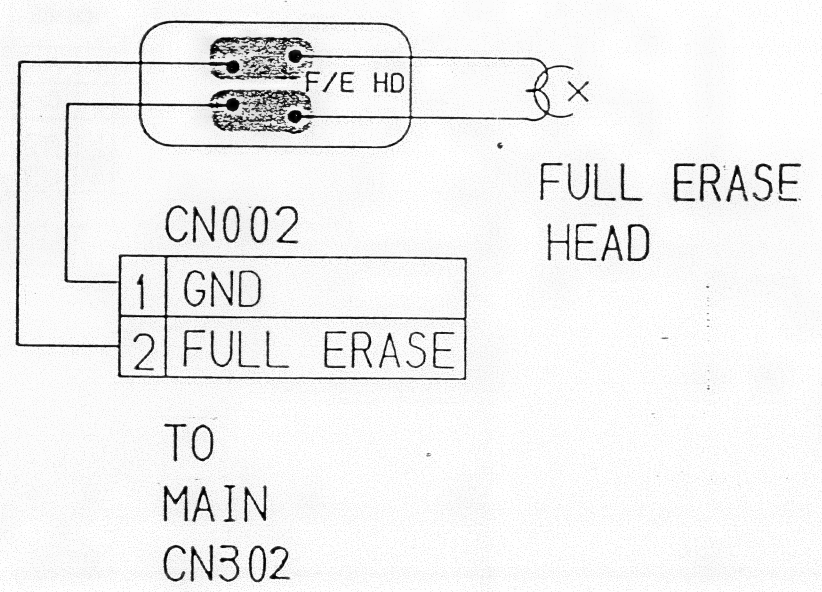
9-14. Function Switch



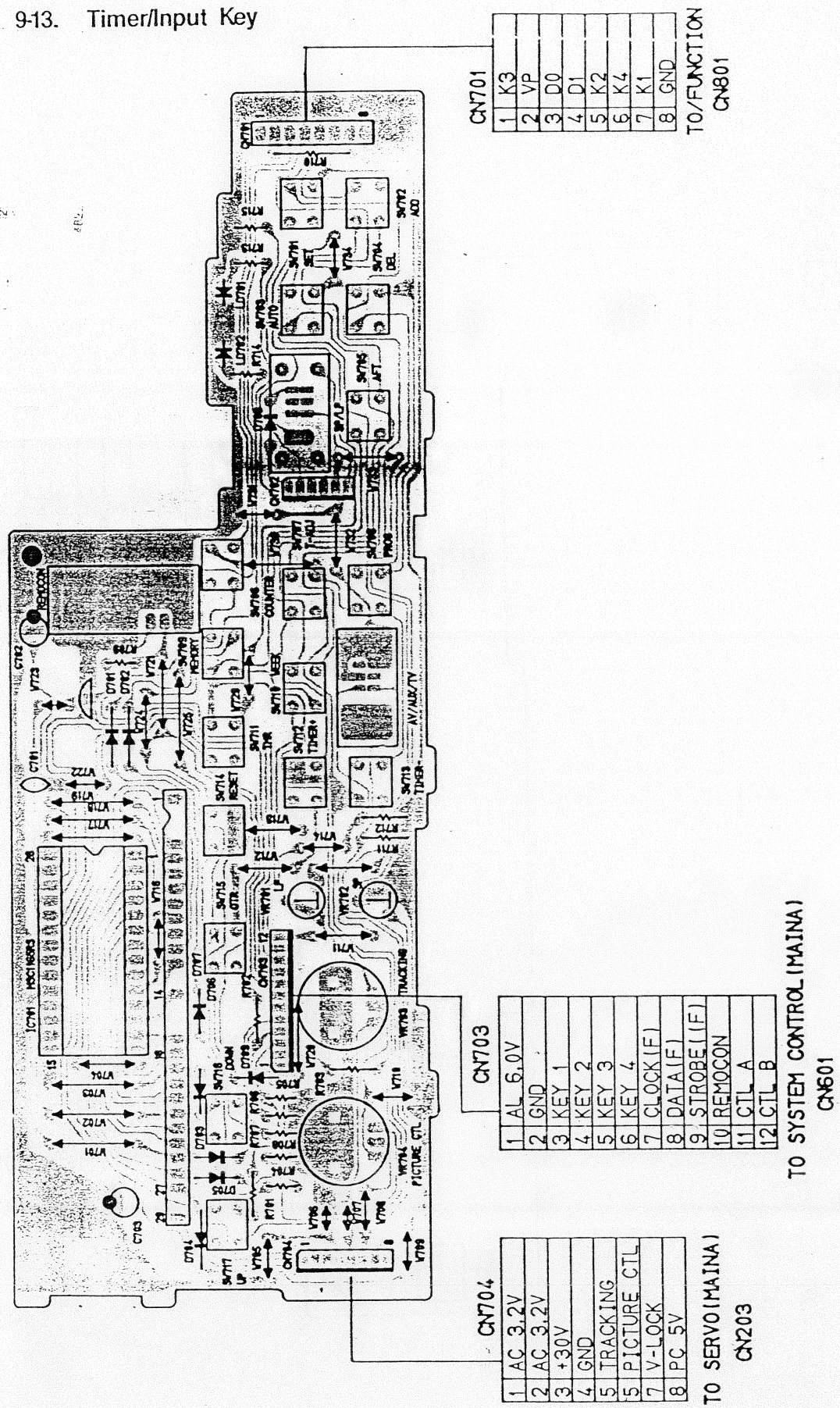
9-10. Program Switch



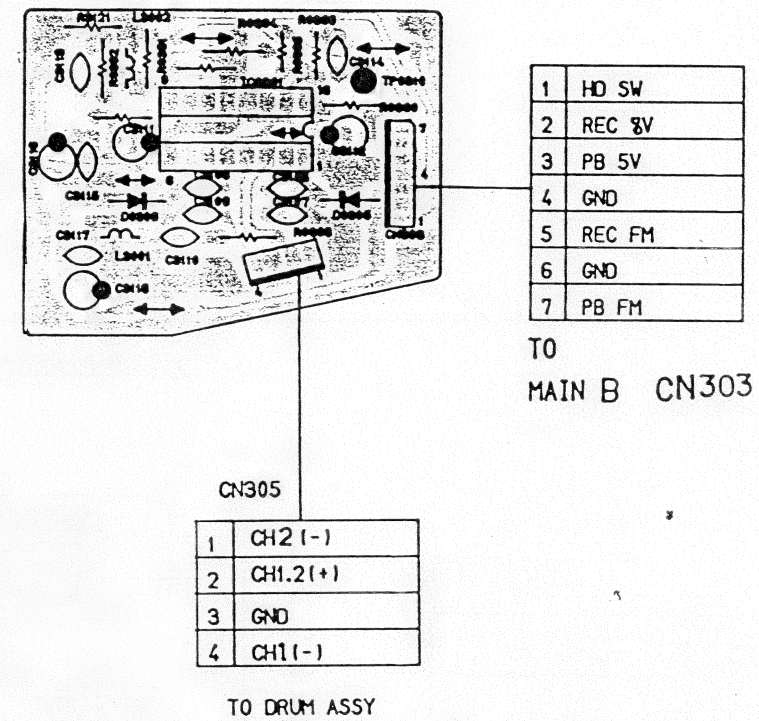
9-12. Full Eraser Head

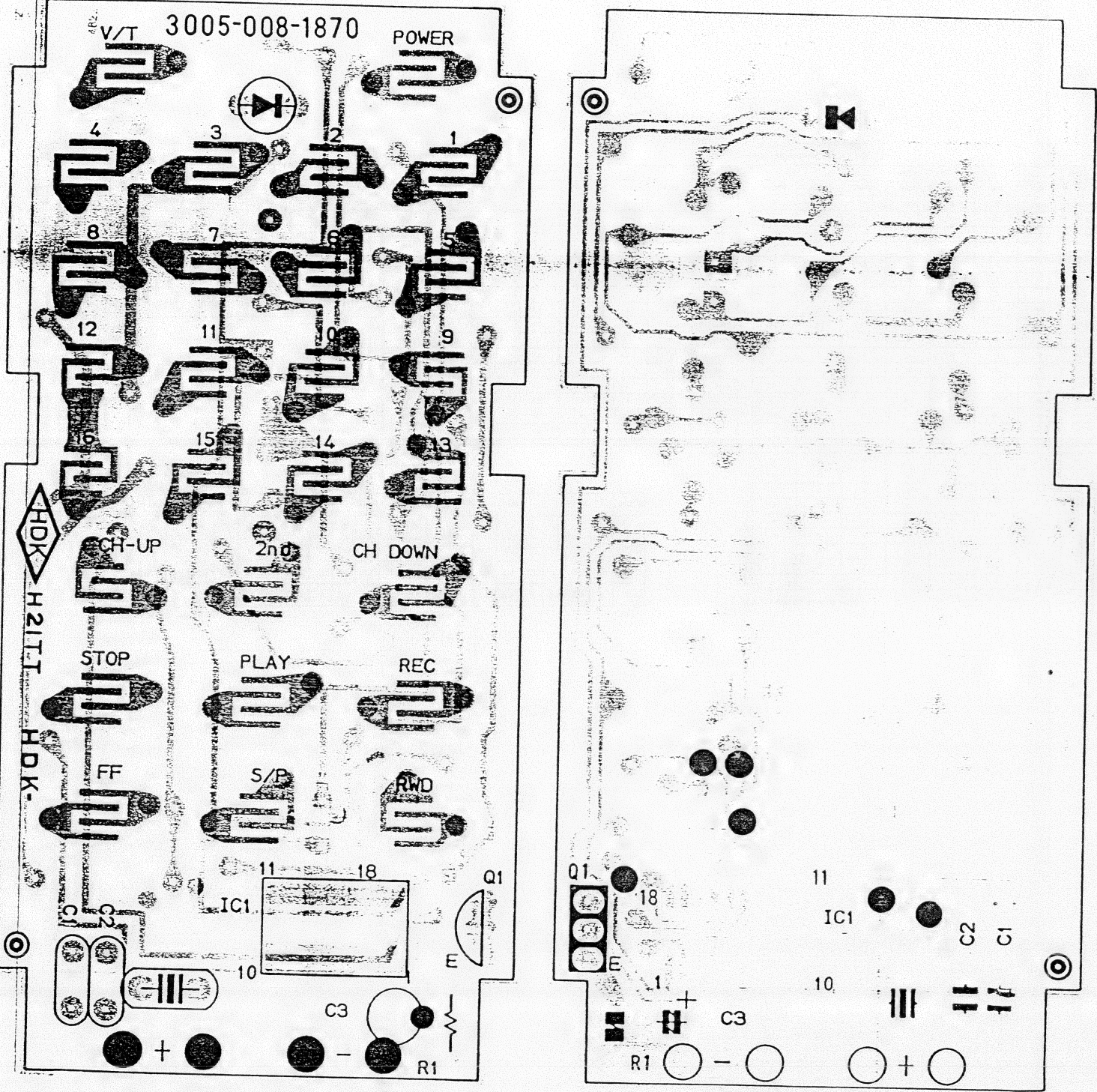


9-13. Timer/Input Key



9-15. Pre-Amp





10. SCHEMATICS

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REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 101						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
PIN 1	0	0	0	0	0	0	0
PIN 2	5	5	5	5	5	5	5
PIN 3	6	6	6	6	6	6	6
PIN 4	10	9	9	9	9	9	9
PIN 5	21	21	21	21	21	21	21
PIN 6	15	15	15	15	15	15.5	15.5
PIN 7	17	16.5	16.5	16.5	16.5	16.5	16.5
PIN 8	22	21	22	21	21	21	21

Regulator C.B.A.

REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 102						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
I	19	19	19	19	19	19	19
G	0	0	0	0	0	0	0
O	13	12.5	12.5	12.5	12.5	13	13

Regulator C.B.A.

REV S. : REVERSE SEARCH FWD S. : FORWARD SEARCH																					
MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr. No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 101	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	1.2	0	5	2	0	5	2
Q 102	32	32	32.5	31	31	32	32	32.5	31	31.5	32	32.5	31.5	32	32.5	31.5	32	32.5	31.5	32	32.5
Q 103	0	16	0	0	16	0	0	16	0	0	16	0	0	16.5	0	0	16.5	0	0	16.5	0

Regulator C.B.A.

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
TRNO	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 105	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15	15	12	15
Q 106	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13	12	15	13
Q 107	9.2	12	10	4.2	12	10	4.2	12	10	4.2	12	10	9.2	12	10	9.2	12	10	9.2	12	10
Q 108	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10	9	12.2	10
Q 110	9.2	0	9.2	9.2	9	8.6	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2	9.2	0	9.2
Q 111	0	9.2	0	0	0	5	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0	0	9.2	0
Q 112	5	0.2	4.6	5	0.2	4.6	5.2	5	4.5	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6	5	0.2	4.6
Q 113	0	4	0	0	4	0	0	0	5	0	4	0	0	4	0	0	5	0	0	5	0
Q 114	0	0.2	4	0	0.2	4	0	5	0	0	0.2	4	0	0.2	4	0	5	0	0	5	0

Main (Power) C.B.A.

REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 991						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
PIN 1	4.5	2.0	2.0	2.1	2.1	2.1	2.1
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	5	5	5	5	5	5	5
PIN 5	0	0	0	0	0	0	0
PIN 6	3.4	3.4	3.4	3.4	3.4	3.4	3.4
PIN 7	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 9	9	5	0	5	5	5	5
PIN 10	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 11	0	0	0	0	0	0	0
PIN 12	5	5	5	5	5	5	5
PIN 13	0	0	0	0	0	0	0
PIN 14	6.1	6.1	6.1	6.1	6.1	6.1	6.1
PIN 15	0	0	0	0	0	0	0
PIN 16	8.6	8.6	8.6	8.6	8.6	8.6	8.6
PIN 17	5	5	5	5	5	5	5
PIN 18	0	0	0	0	0	0	0
PIN 19	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 20	0	5.1	5.1	5.1	5.1	0	5.1
PIN 21	4.8	0	0	0	0	4.8	0
PIN 22	0	5.1	5.1	0	0	5	5
PIN 23	0	0	0	0	0	0	0
PIN 24	0	0	0	0	0	0	0
PIN 25	0	0	0	0	0	0	0
PIN 26	0	0	0	0	0	0	0
PIN 27	0	0	0	0	0	0	0
PIN 28	0	0	0	0	0	0	0
PIN 29	5.1	5	5	5	5	5	5
PIN 30	5.1	5	5	5	5	5	5
PIN 31	0	0	0	0	0	0	0
PIN 32	5.1	5	5	5	5	5	5
PIN 33	0	0	0	5	5	5	5
PIN 34	0	0	0	0	0	0	0
PIN 35	5.1	5	5	5	5	5	5
PIN 36	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 37	0	0	0	0	0	0	0
PIN 38	0	0	0	0	0	0	0

Main (System Control) C.B.A.

REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 991						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
PIN 39	4.8	0	0	0	0	4.8	0
PIN 40	4.8	4.8	4.8	5	4.8	0	5
PIN 41	0	0	0	0	0	0	0
PIN 42	0	0	0	0	0	0	5
PIN 43	0	0	0	0	0	5	5
PIN 44	0	0	0	0	0	0	0
PIN 45	5	5	5	5	5	5	5
PIN 46	2.8	2.8	2.8	2.8	2.8	2.8	2.8
PIN 47	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 48	0	0	0	0	0	5	0
PIN 49	0	0	0	0	0	5	5
PIN 50	0	0	0	0	0	0	0
PIN 51	0	5	0	0	0	0	0
PIN 52	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 53	4.8	4.8	4.8	4.8	4.8	4.8	4.8
PIN 54	0	5	5	5	5	5	5
PIN 55	5	0	0	5	5	5	0
PIN 56	0	0	0	0	0	0	0
PIN 57	0	0	0	0	0	0	0
PIN 58	5	5	5	5	5	5	5
PIN 59	5	5	5	5	5	5	5
PIN 60	5	5	5	5	5	5	5
PIN 61	5	5	5	5	5	5	5
PIN 62	5	5	5	5	5	5	5
PIN 63	5	5	5	5	5	5	5
PIN 64	0	0	0	0	0	0	0

Main (System Control) C.B.A.

REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 802						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
PIN 1	5	5	5	5	5	5	5
PIN 2	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 3	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 4	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 5	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	0	0	0	0	0
PIN 8	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 9	0	0	0	0	0	0	0
PIN 10	0	0	0	0	0	0	0
PIN 11	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 12	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 13	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 14	5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 15	5	5	5	5	5	5	5
PIN 16	5.1	5.1	5.1	5.1	5.1	5.1	5.1

Main (System Control) C.B.A.

REV S.: REVERSE SEARCH FWD S.: FORWARD SEARCH							
MODE	IC 803						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV. S.	FWD. S.
PIN 1	0.7	0.7	0.7	0.7	0.7	0.7	0.7
PIN 2	0.7	0.7	0.7	0.7	0.7	0.7	0.7
PIN 3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
PIN 4	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PIN 5	0	0	0	0	0	0	0
PIN 6	1.8	1.8	1.8	1.8	1.8	1.8	1.8
PIN 7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
PIN 8	0	0	0	0	0	0	0

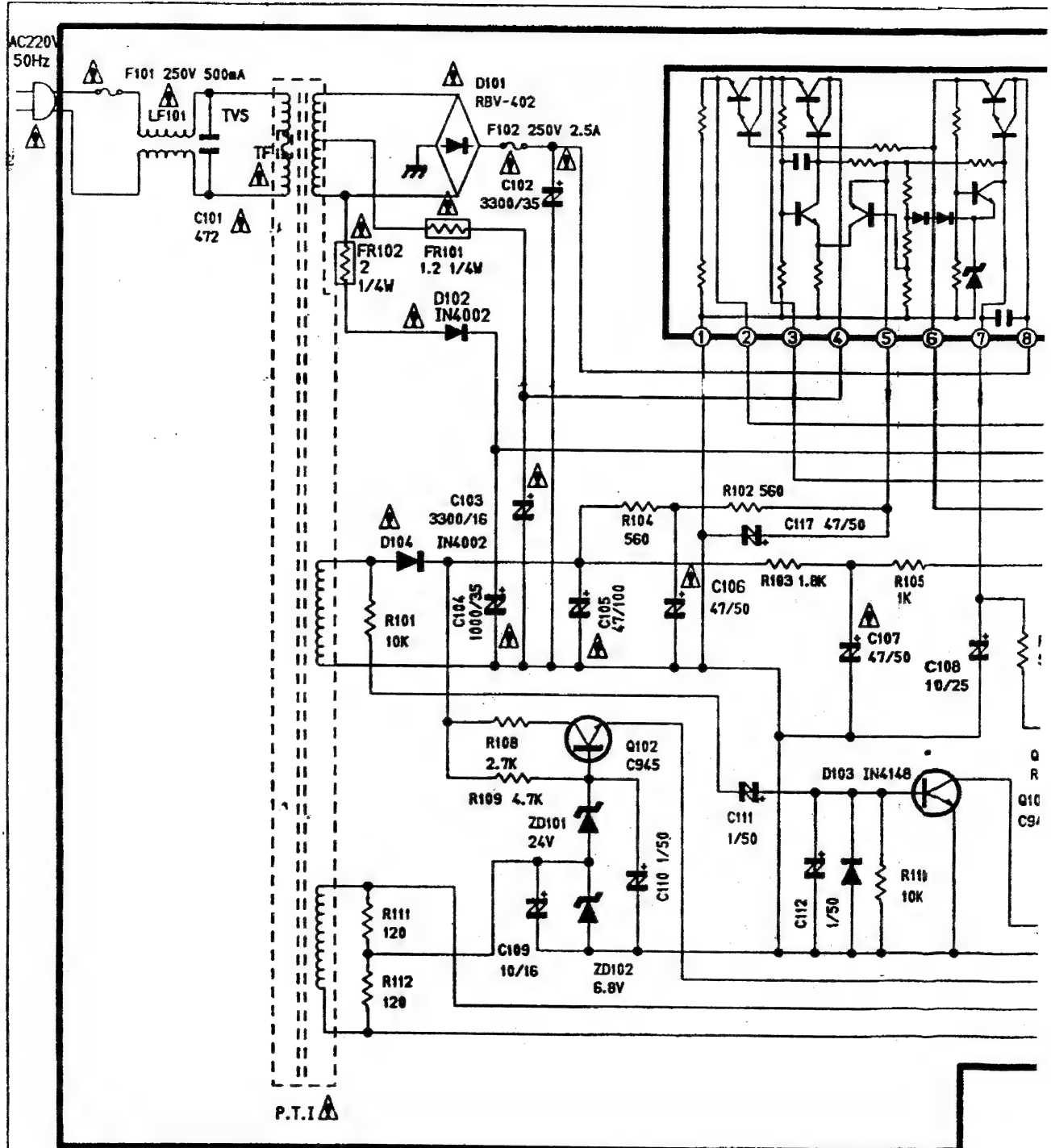
Main (System Control) C.B.A.

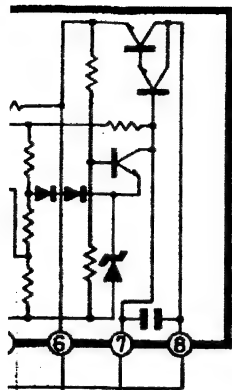
REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
Tr. No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 601	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8	0	5	0.8
Q 602	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5	0	1.5	4.5
Q 603	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3	0	4.8	0.3

Main (System Control) C.B.A.

10-1. Regulator



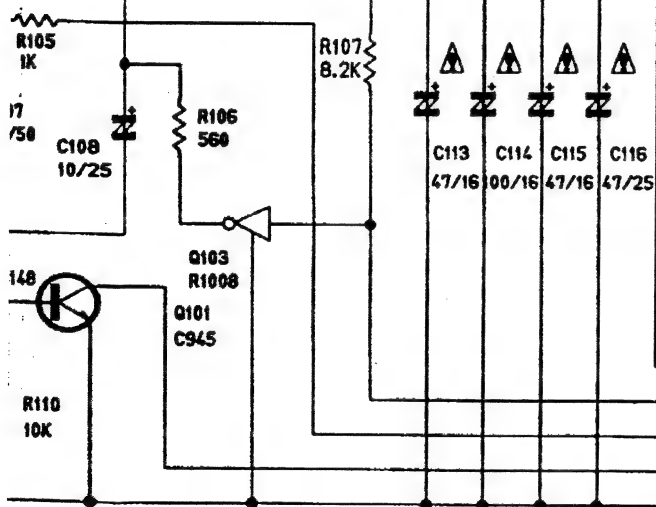



 IC101
 STK-5333
 REGULATOR


 IC102
 MC7812

I	IN PUT
G	GND
O	OUT PUT

DRUM



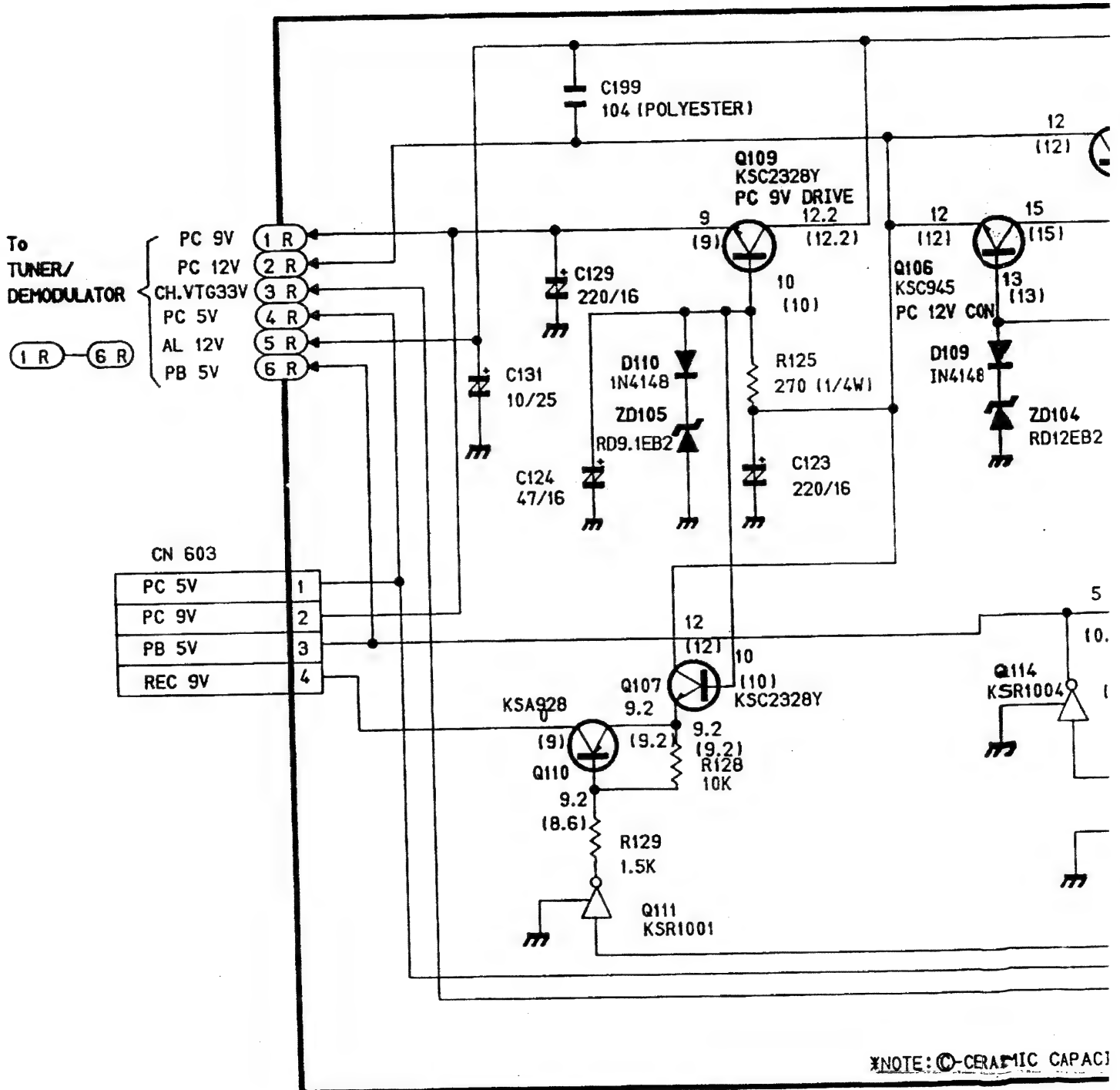
CN101

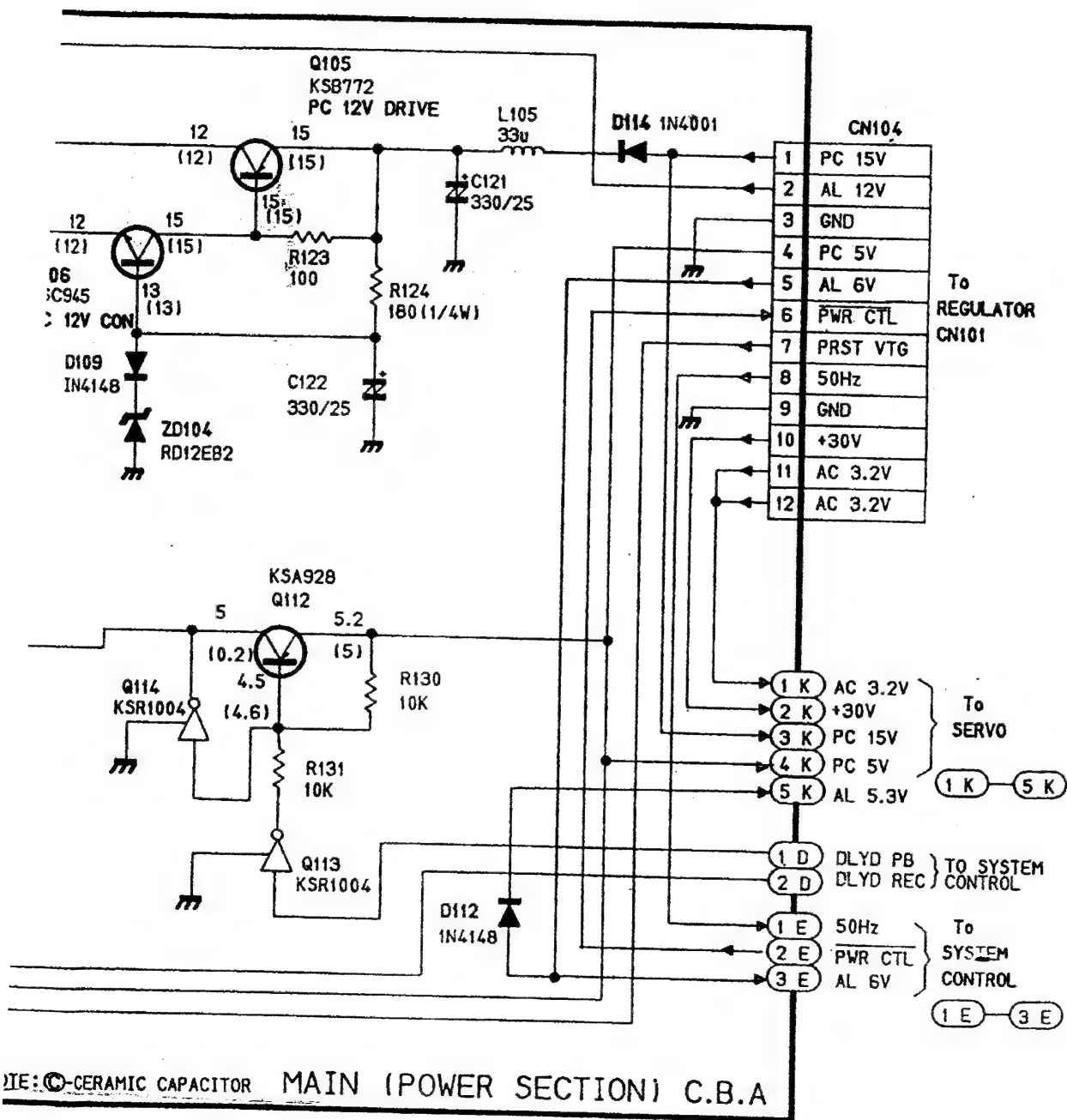
CN104

1	PC 15V	1
2	AL 12V	2
3	GND	3
4	PC 5V	4
5	AL 6V	5
6	PWR CTL	6
7	PRST.VTG	7
8	50HZ	8
9	GND	9
10	+30V	10
11	AC 3.2V	11
12	AC 3.2V	12

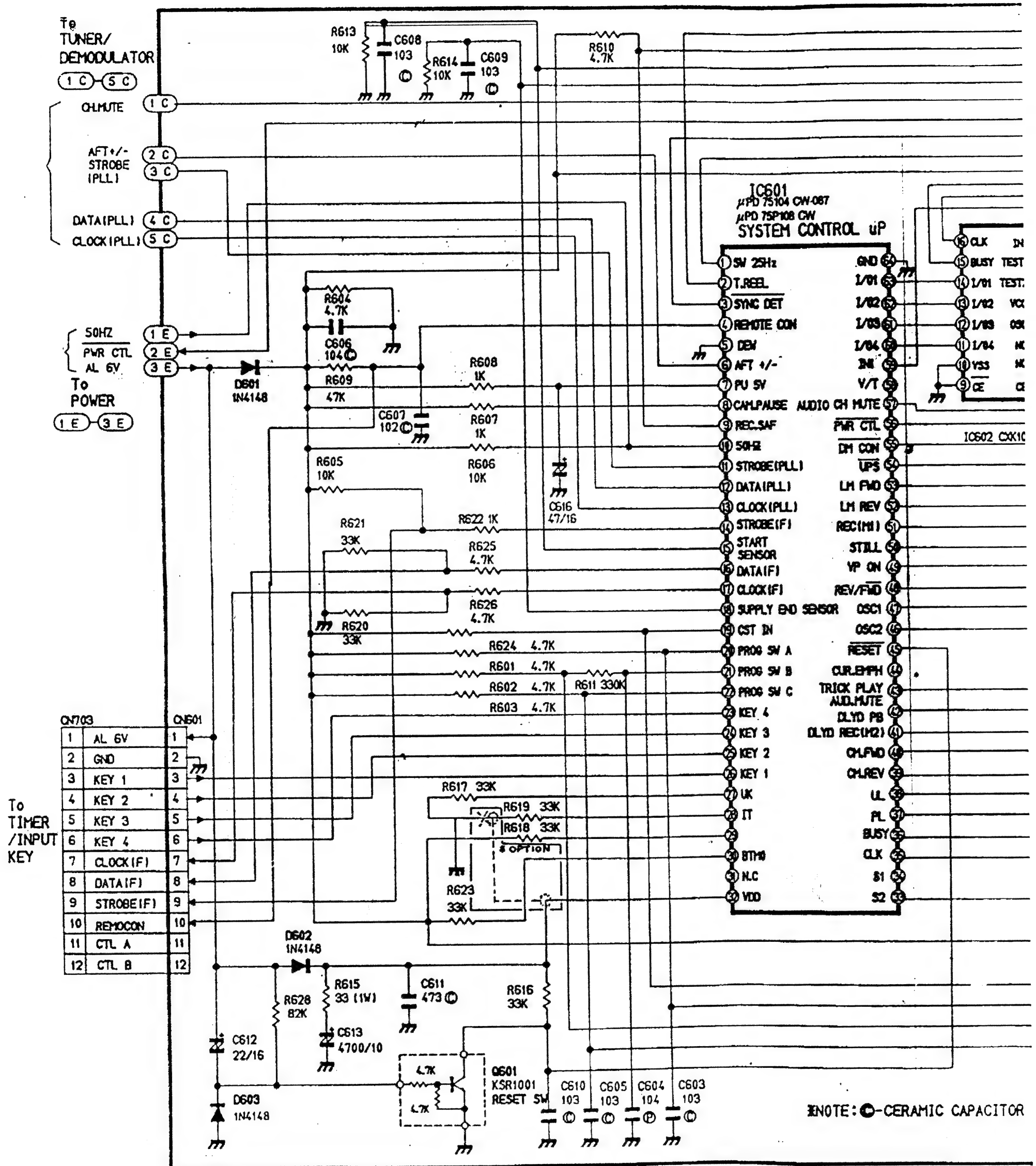
REGULATION

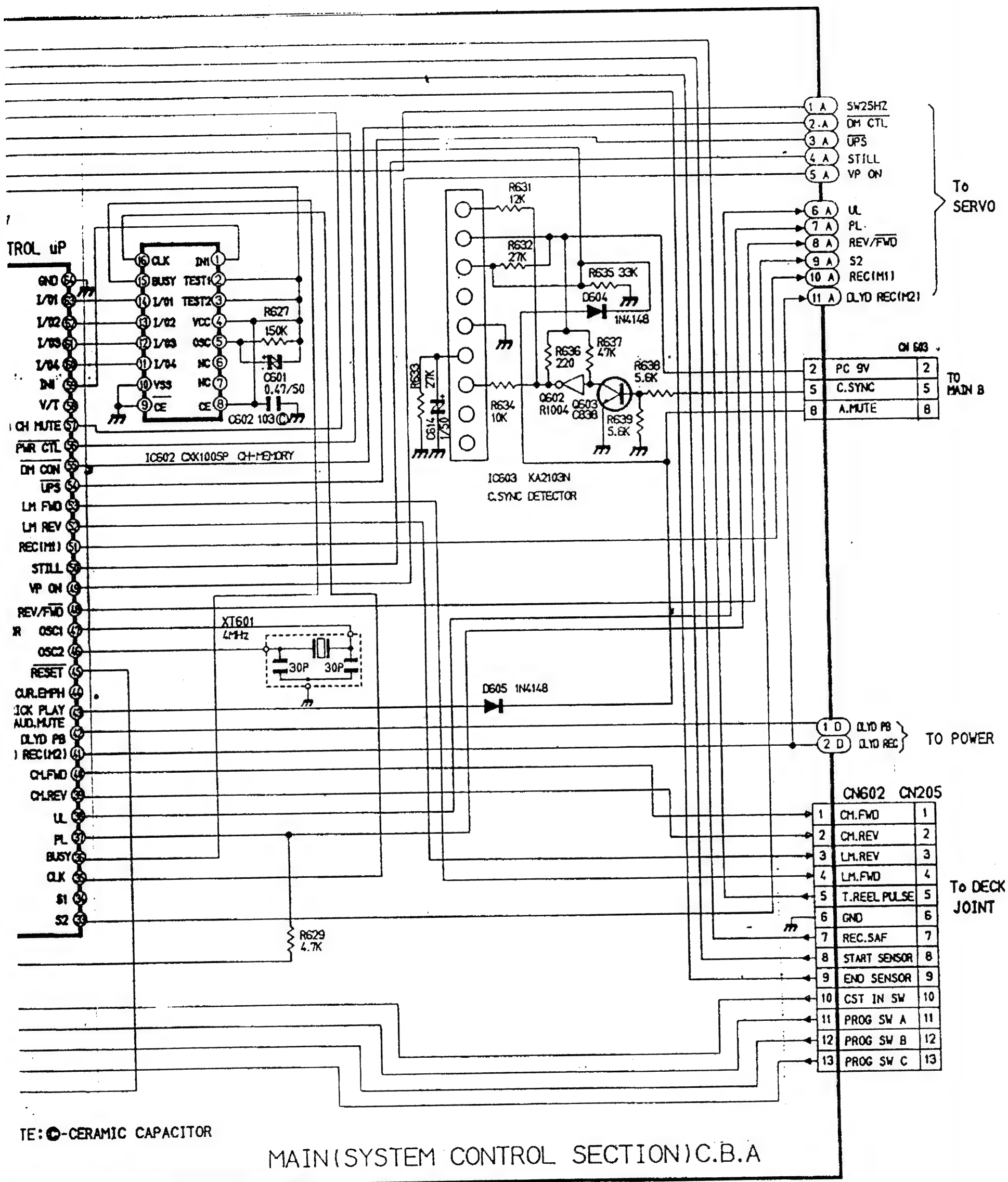
10-2. Power



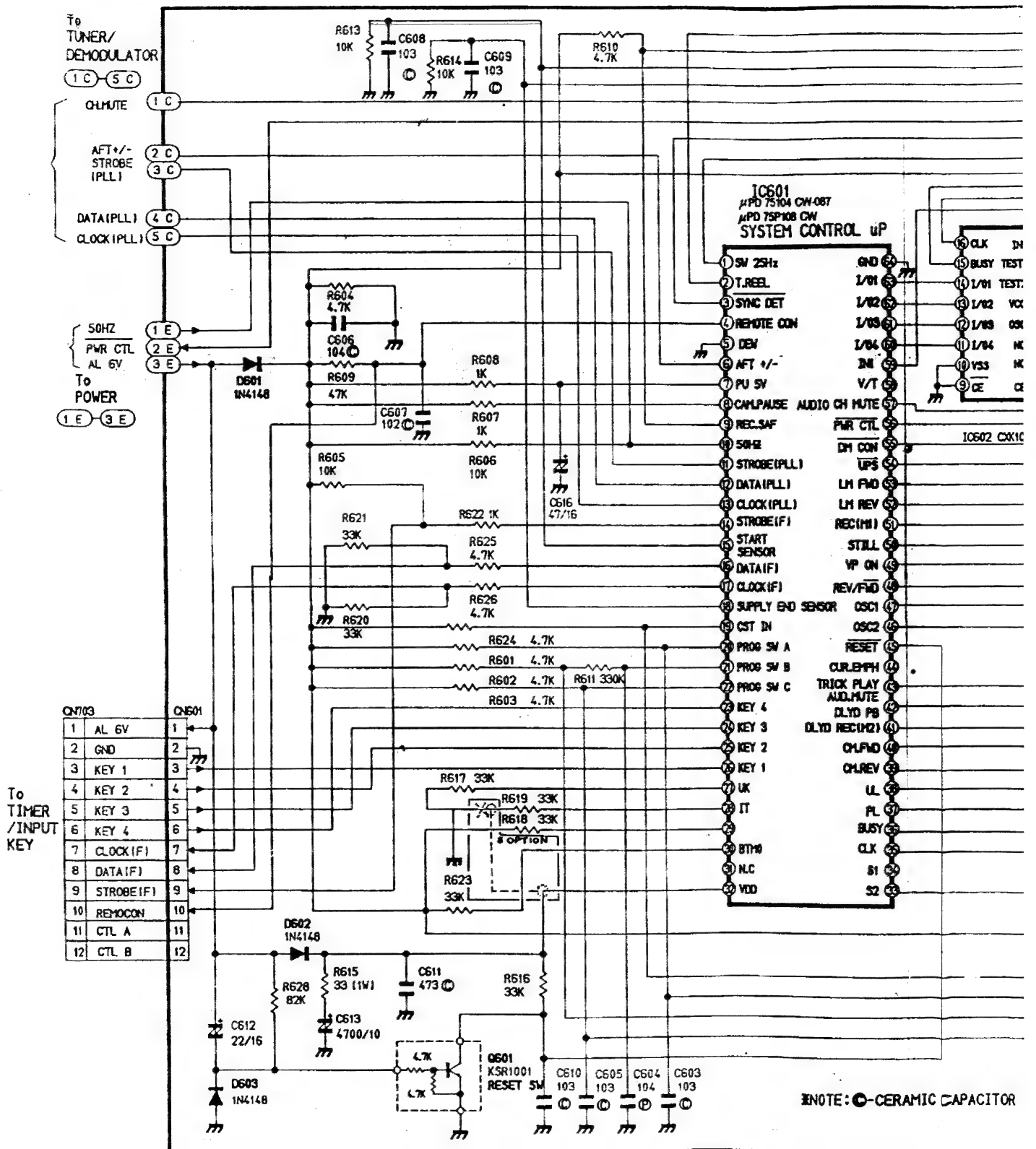


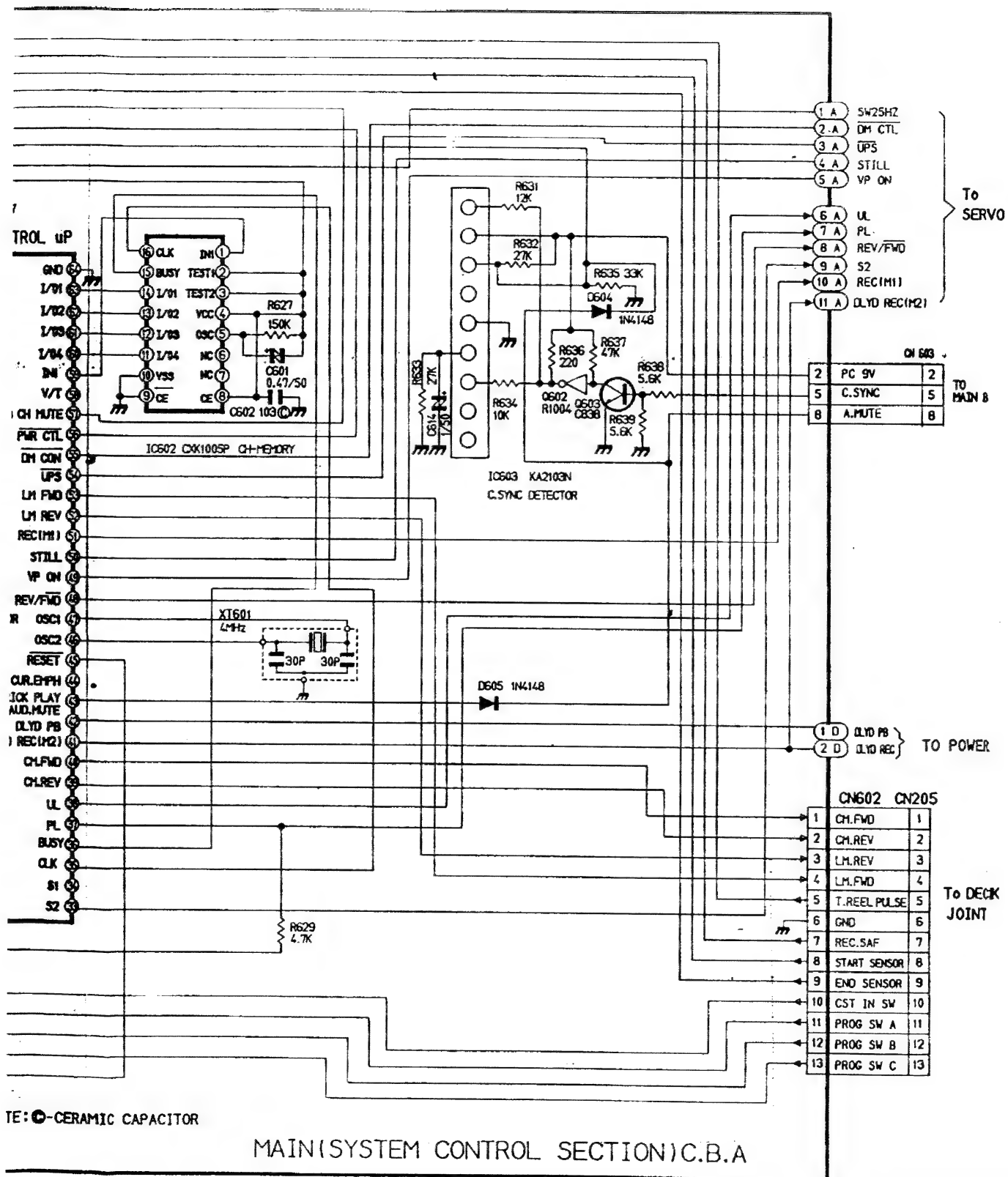
10-3. System Control



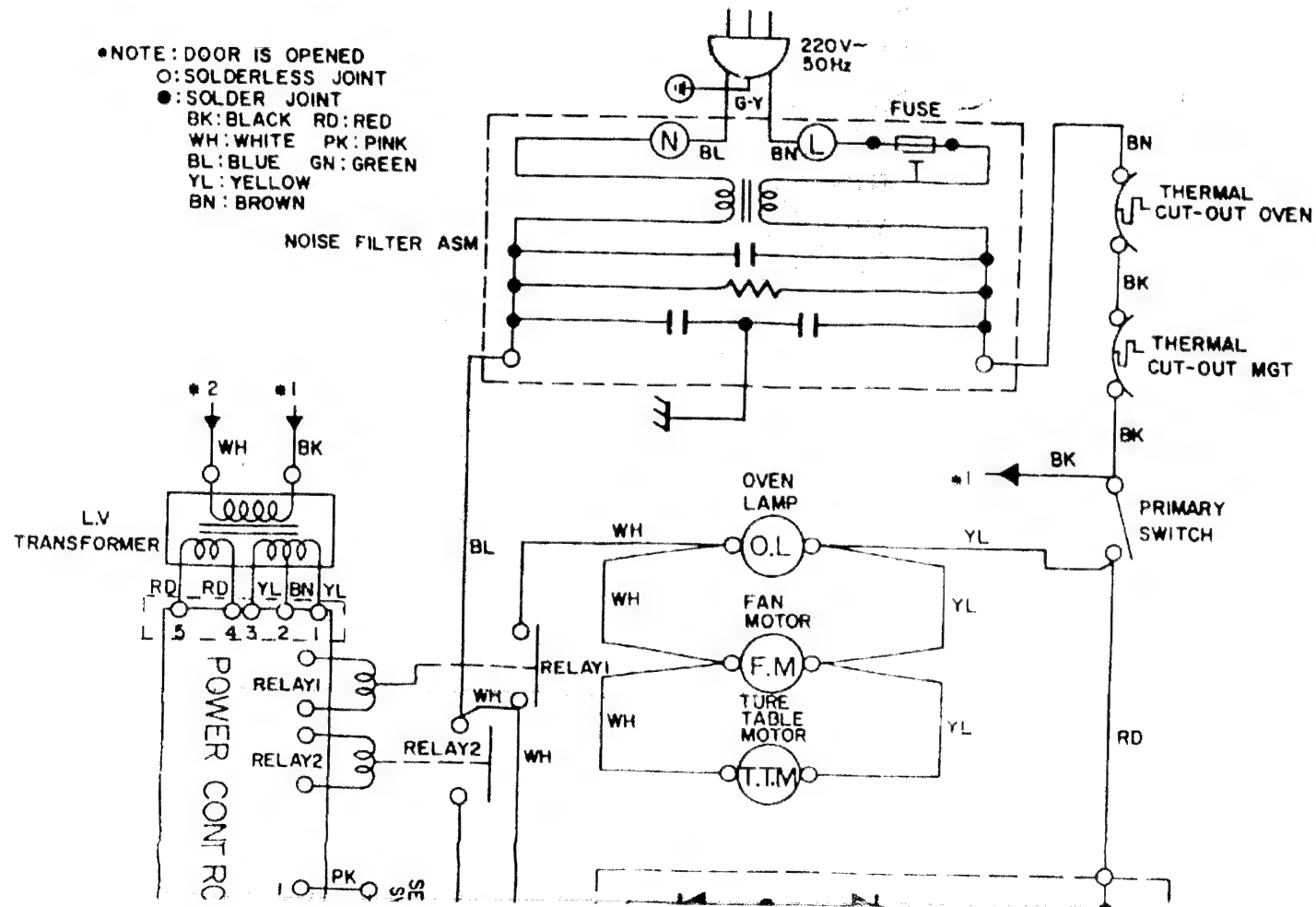


10-3. System Control





SCHEMATIC DIAGRAM



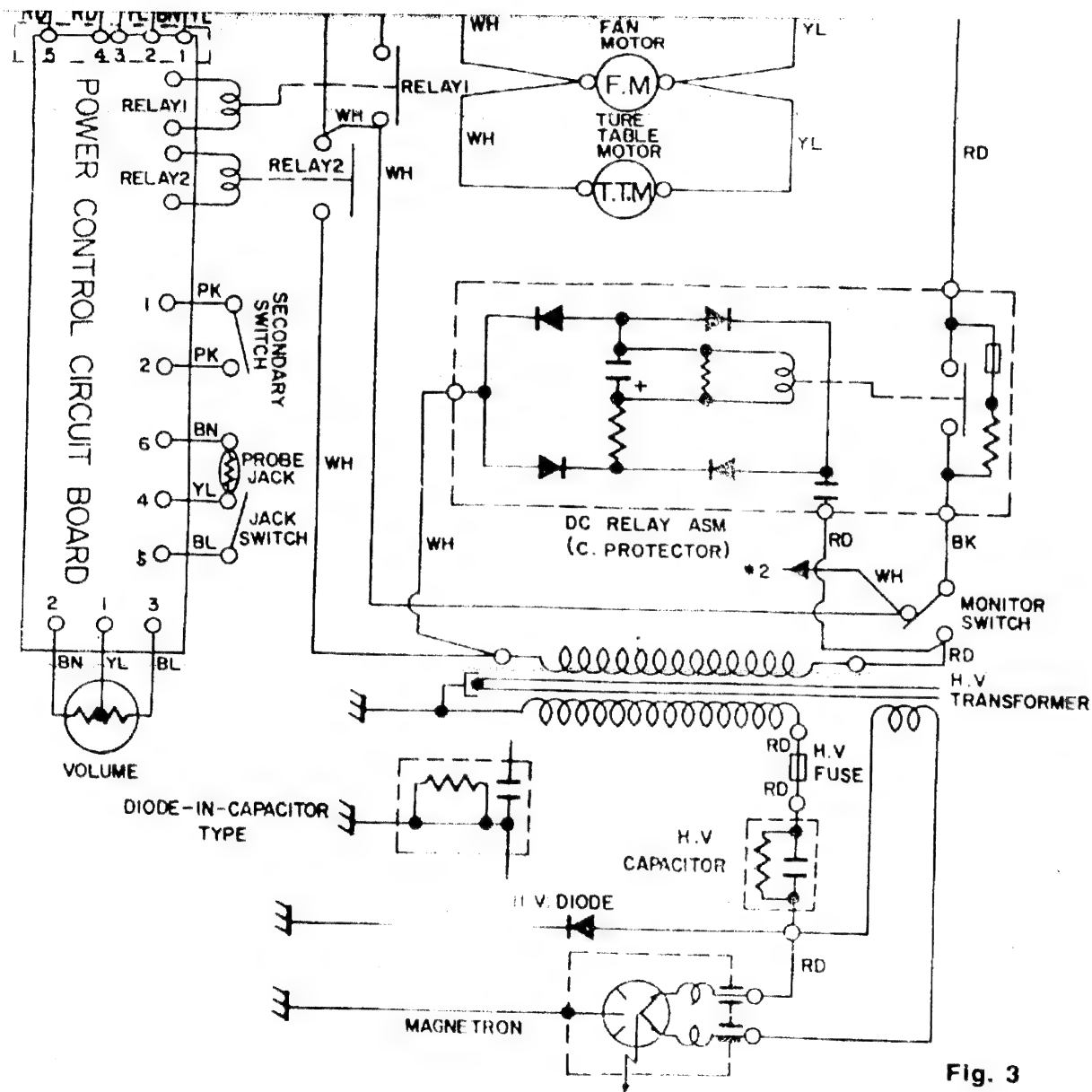
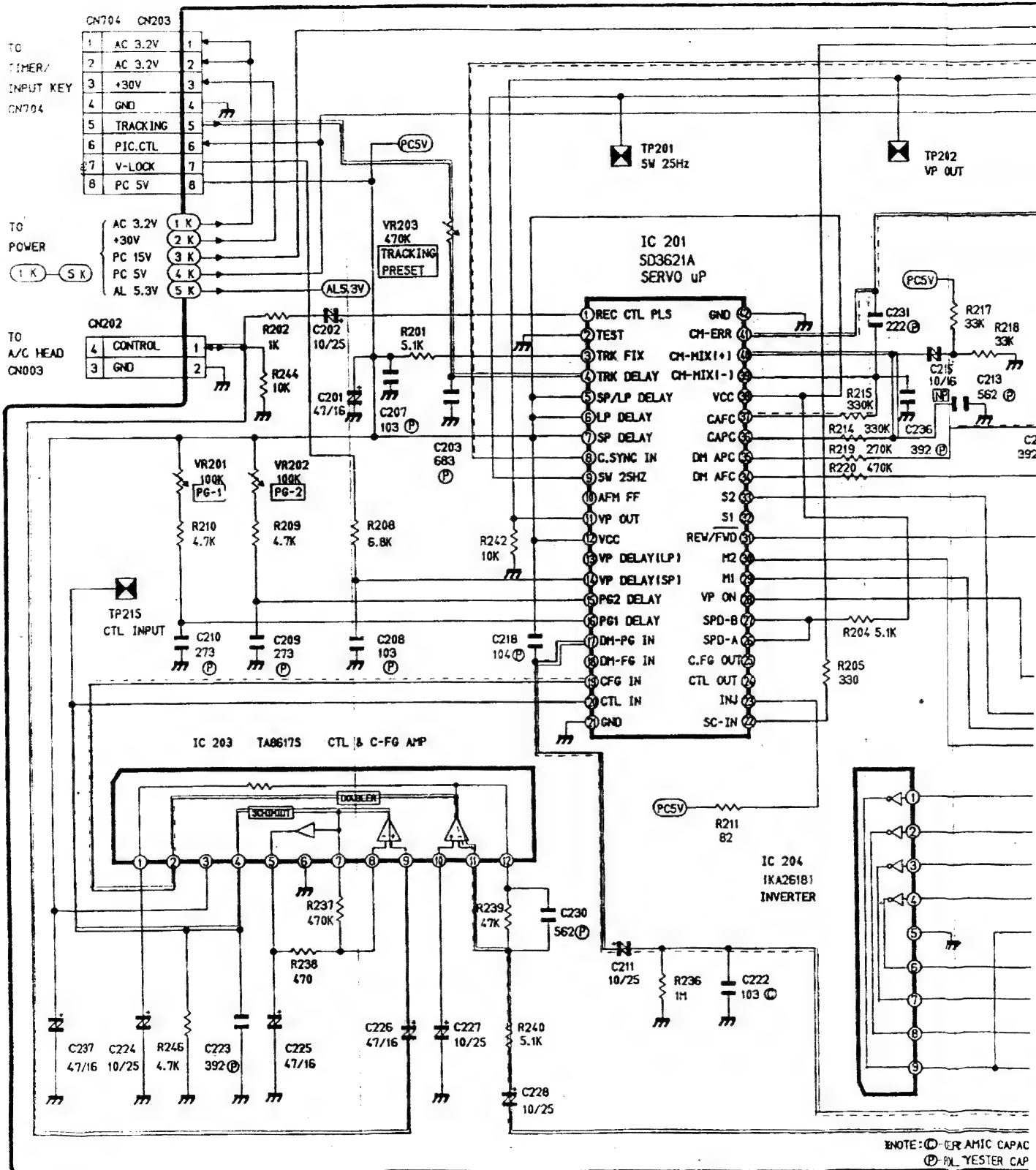
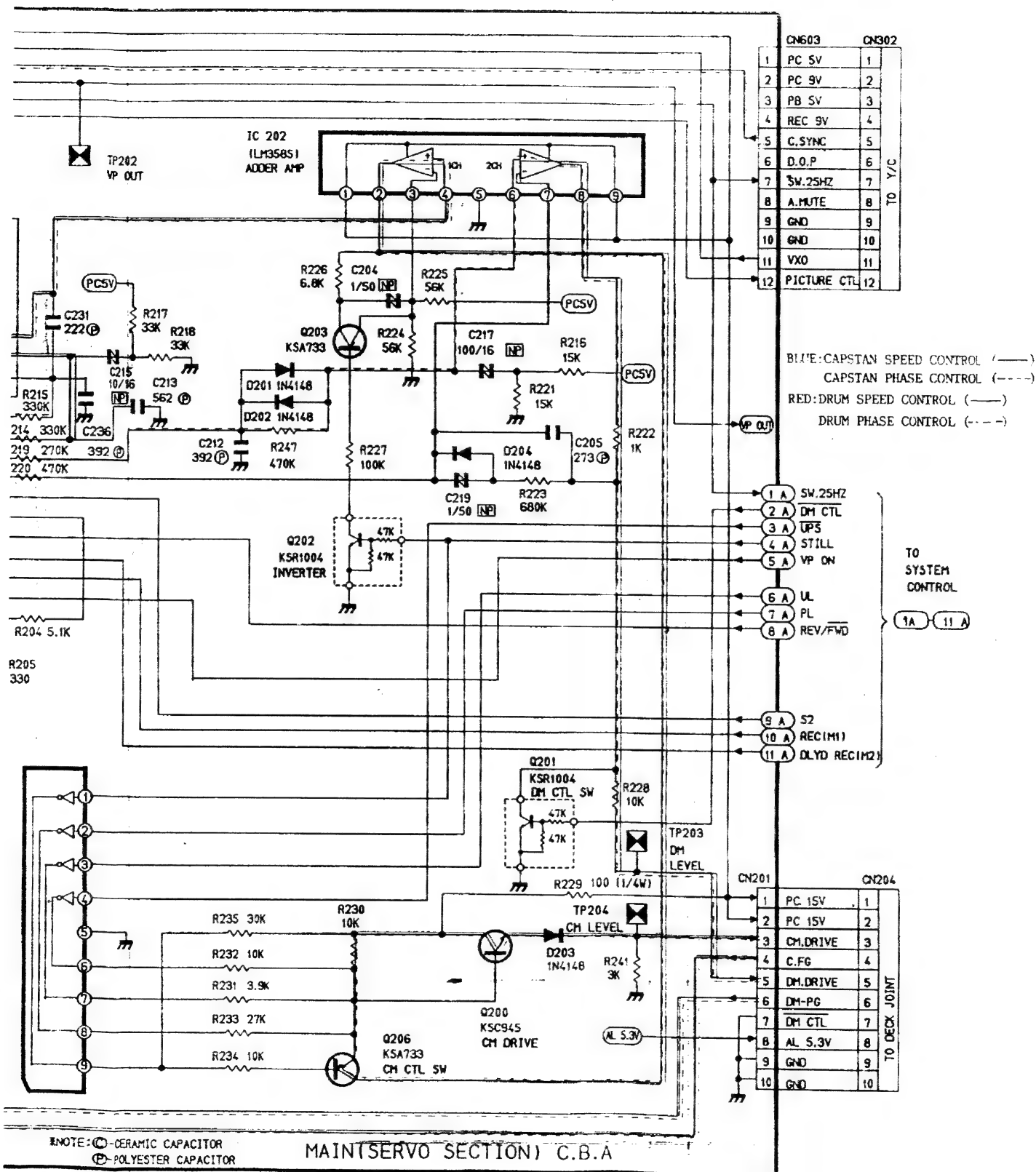


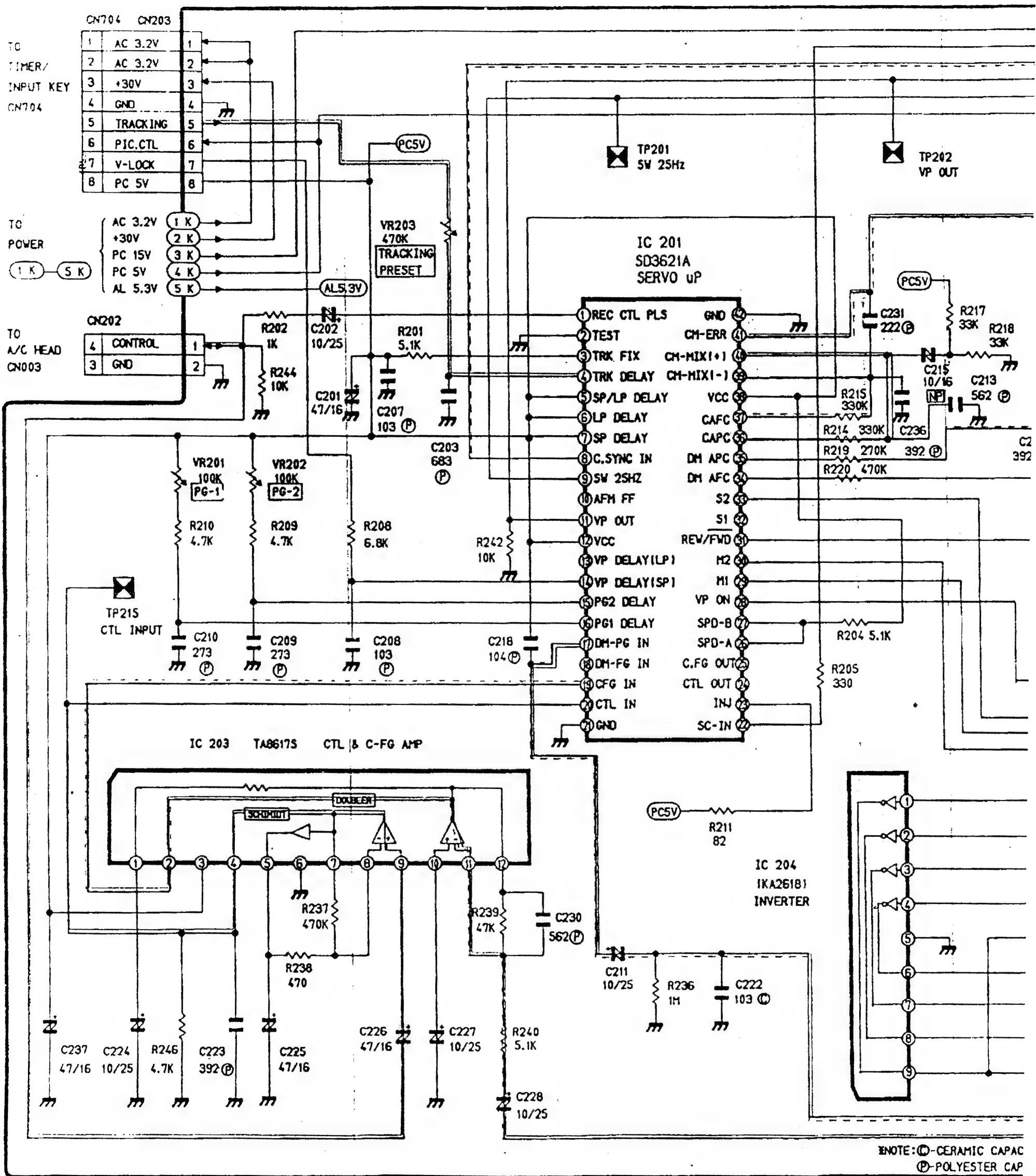
Fig. 3

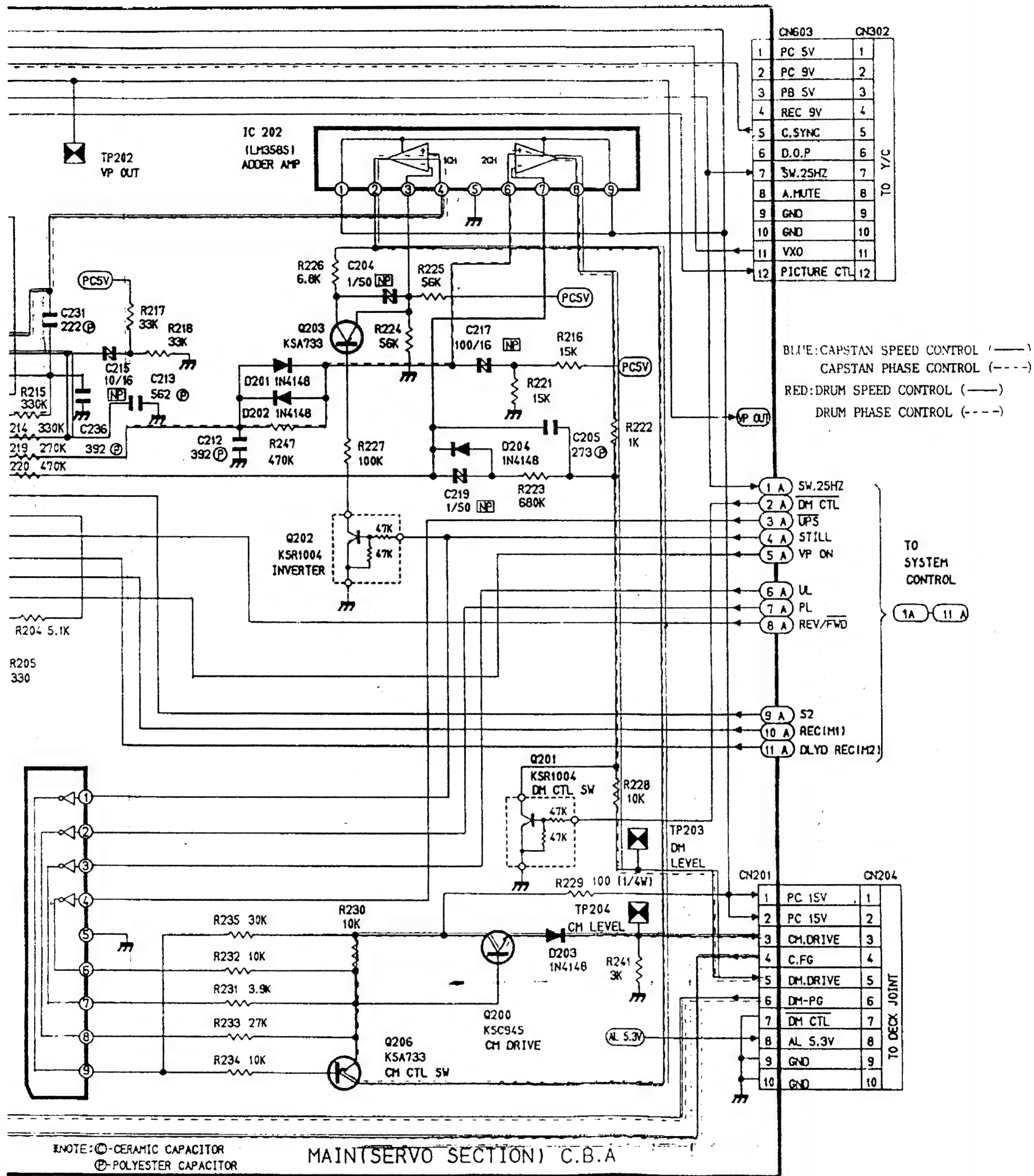
10-4. Servo





10-4. Servo





REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 201						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.3	2.4	2.2	0.7	3.6	2.8	2.6
PIN 2	0	0	0	0	0	0	0
PIN 3	4.6	4.6	4.5	4.3	3.6	4.3	4.3
PIN 4	2.6	1.4	1	0.7	0.7	0.7	0.7
PIN 5	5.1	5.2	5.2	4.9	5.2	4.9	5
PIN 6	5.1	5.2	5.2	4.9	5.2	4.9	5
PIN 7	5.1	5.2	5.2	4.9	5.2	4.9	5
PIN 8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
PIN 9	4.1	2.1	2.1	4.1	4.0	2.1	2.1
PIN 10	—	—	—	—	—	—	—
PIN 11	0	0	0	0	0	0.4	0.3
PIN 12	5.1	5.2	5.2	4.4	5.2	5	5
PIN 13	0	0	0	0	0	0	0
PIN 14	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PIN 15	0	0	0	0	0	0	0
PIN 16	0	0	0	0	0	0	0
PIN 17	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 18	—	—	—	—	—	—	—
PIN 19	4.6	0.7	0.7	0.4	0.3	0.3	0.3
PIN 20	0	2.1	2.1	0	0	2.4	2.4
PIN 21	0	0	0	0	0	0	0
PIN 22	0.7	0.6	0.6	0.7	0.7	0.7	0.7
PIN 23	2.5	2.7	2.5	2.4	2.4	2.4	2.4
PIN 24	—	—	—	—	—	—	—
PIN 25	—	—	—	—	—	—	—
PIN 26	5	4	5	5	5	5	5
PIN 27	5	4	5	5	5	5	5
PIN 28	0	0	0	5.2	5	5.2	5
PIN 29	0	5	0	0	0	0	0
PIN 30	0	5	0	0	0	0	0
PIN 31	0	0	0	5	0	5.2	0
PIN 32	0	0	0	0	0	0	0
PIN 33	0	0	0	5	5	5	5
PIN 34	0.1	2.4	2.4	0.1	0.1	2.4	2.5
PIN 35	2.4	2.5	2.5	2.4	2.4	2.5	2.5
PIN 36	2.4	2.4	2.5	2.4	2.4	2.5	2.5
PIN 37	0	2.4	2.4	2.4	2.4	2.5	2.5
PIN 38	5.1	5.2	5.2	5	5	5	5

Main (Servo) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		IC 201					
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 39	1	2.6	2.8	2	3	2.4	2.5
PIN 40	2.6	2.6	2.8	2	3	2.4	2.4
PIN 41	4.4	2.6	2.4	2.5	2.5	2.5	2.4
PIN 42	0	0	0	0	0	0	0

Main (Servo) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 202						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	14.2	14.7	15	14.1	14.0	14.1	14.1
PIN 2	12.9	2.8	2.8	9.2	10.2	10.0	9.5
PIN 3	2.6	2.6	2.4	2.5	2.5	2.4	2.5
PIN 4	4.2	2.4	2.4	2.5	2.5	2.5	2.5
PIN 5	0	0	0	0	0	0	0
PIN 6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 7	0.1	2.5	2.5	0.1	0.1	2.4	2.4
PIN 8	12.8	1.8	1.8	12.7	12.6	1.8	1.4
PIN 9	14.2	14.4	15	14.1	14.0	14.1	14.1

Main (Servo) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		IC 203						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.	
PIN 1	2.5	2.4	2.4	2.4	2.4	2.4	2.4	
PIN 2	4.5	0.7	0.7	0.4	0.4	0.4	0.4	
PIN 3	5.1	5.2	5.2	5	5	5	5	
PIN 4	4.2	2.1	2.1	0	0	2.4	2.3	
PIN 5	2	2.2	2	2	2	2	2	
PIN 6	0	0	0	0	0	0	0	
PIN 7	2	2.2	2	2	2	2	2	
PIN 8	2	2.2	2	2	2	2	2	
PIN 9	2	2	2	2	2	2	2	
PIN 10	2.5	2.6	2.6	2.6	2.6	2.6	2.6	
PIN 11	2.5	2.6	2.6	2.6	2.6	2.6	2.6	
PIN 12	2.5	2.6	2.6	2.6	2.6	2.6	2.6	

Main (Servo) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	STOP			REC			PLAY			REW			F. FWD			REV. S			FWD. S		
TRNO.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 201	0	0	5.2	0	1.4	0	0	1.4	0	0	0	5.2	0	0	5	0	1.4	0	0	1.4	0
Q 202	0	12.1	0	0	2.4	0	0	2.4	0	0	9	0	0	9	0	0	9	0	0	9	0
Q 203	2.4	12.4	12.0	2.5	2.8	2.4	2.6	2.8	2.4	2.4	9.3	9	2.4	9.8	9.2	2.4	9.5	8.7	2.4	9.4	3
Q 206	13.5	12.5	13.9	2.8	2.8	2.2	2.8	2.8	2.2	9.8	9.3	9.8	9.2	9.2	8	9.8	9.7	9.1	9.8	9.6	9.4
Q 200	12.8	14.0	13.5	2.2	15	2.8	2.4	15	2.8	9.5	13.8	9.9	9	13.8	9.5	9.1	14.1	9.8	8.8	15	9.4

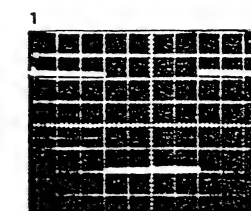
Main (Servo) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

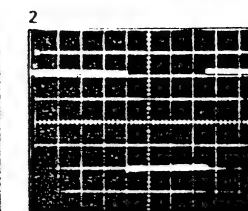
MODE	IC 204						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	5	5	5	5	5	5
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	13.9	3	3	10.5	9	9.7	9.5
PIN 7	13.9	3	3	10.5	9	9.7	9.5
PIN 8	13.9	3	3	10.5	9	9.7	9.5
PIN 9	13.9	0	0	0	0	0	0

Main (Servo) C.B.A

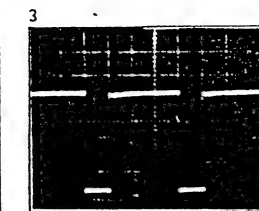
SERVO



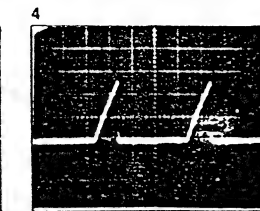
1
TP201
1V/5msec/cm
REC/PLAY



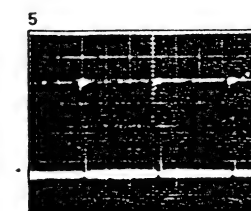
2
TP215
1V/5msec/cm
REC/PLAY



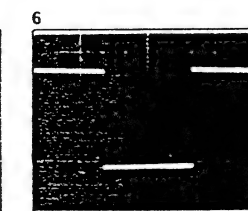
3
IC201-1
1V/10msec/cm
REC/PLAY



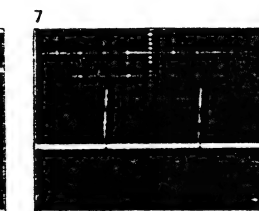
4
IC201-4
0.5V/10msec/cm
REC/PLAY



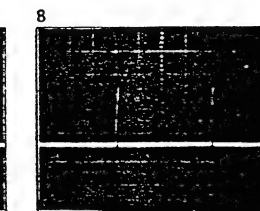
5
IC201-8
1V/5msec/cm
REC/PLAY



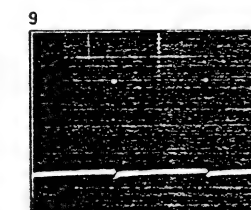
6
IC201-9
1V/5msec/cm
REC/PLAY



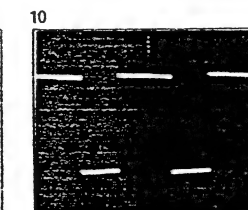
7
IC201-15
1V/10msec/cm
REC/PLAY



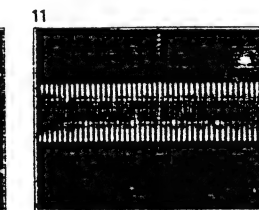
8
IC201-16
1V/10msec/cm
REC/PLAY



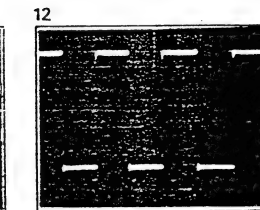
9
IC201-19
1V/2msec/cm
REC/PLAY



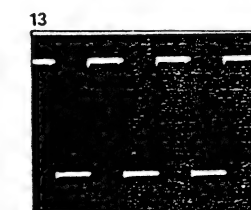
10
IC201-20
1V/10msec/cm
PLAY



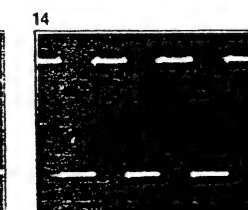
11
IC201-22
0.1V/1μsec/cm
REC/PLAY



12
IC201-34
1V/10μsec/cm
REC/PLAY



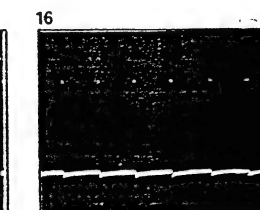
13
IC201-35
1V/10μsec/cm
REC/PLAY



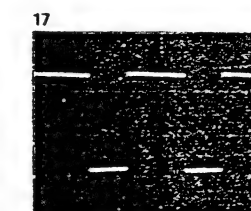
14
IC201-36
1V/10μsec/cm
REC/PLAY



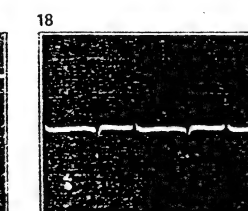
15
IC201-37
1V/10μsec/cm
REC/PLAY



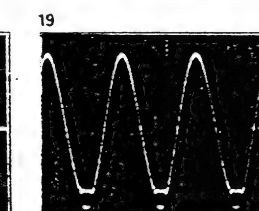
16
IC203-2
1V/0.5msec/cm
REC/PLAY



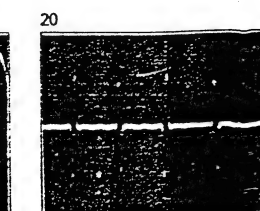
17
IC203-4
1V/10msec/cm
PLAY



18
IC203-7
0.5V/10msec/cm
PLAY

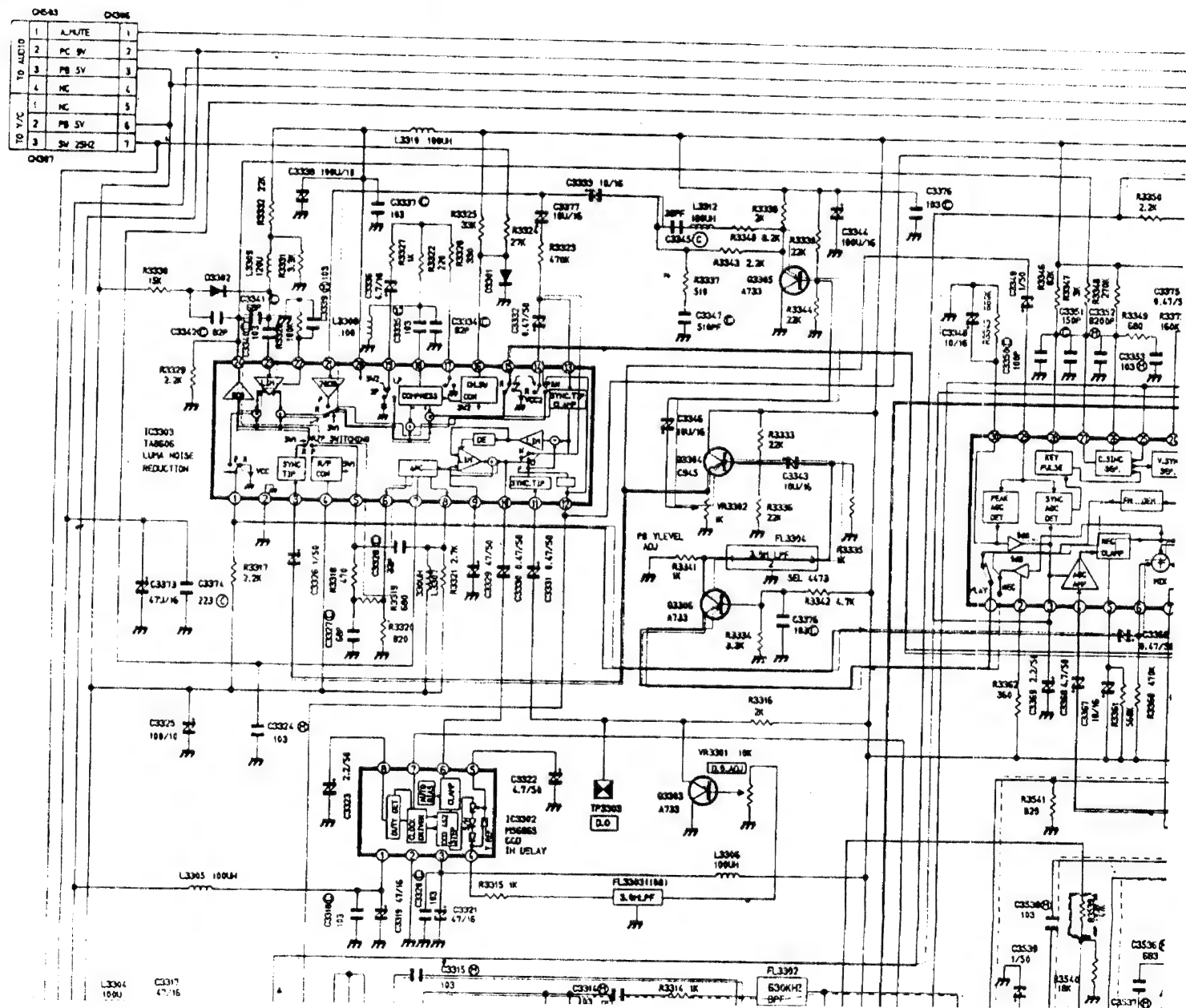


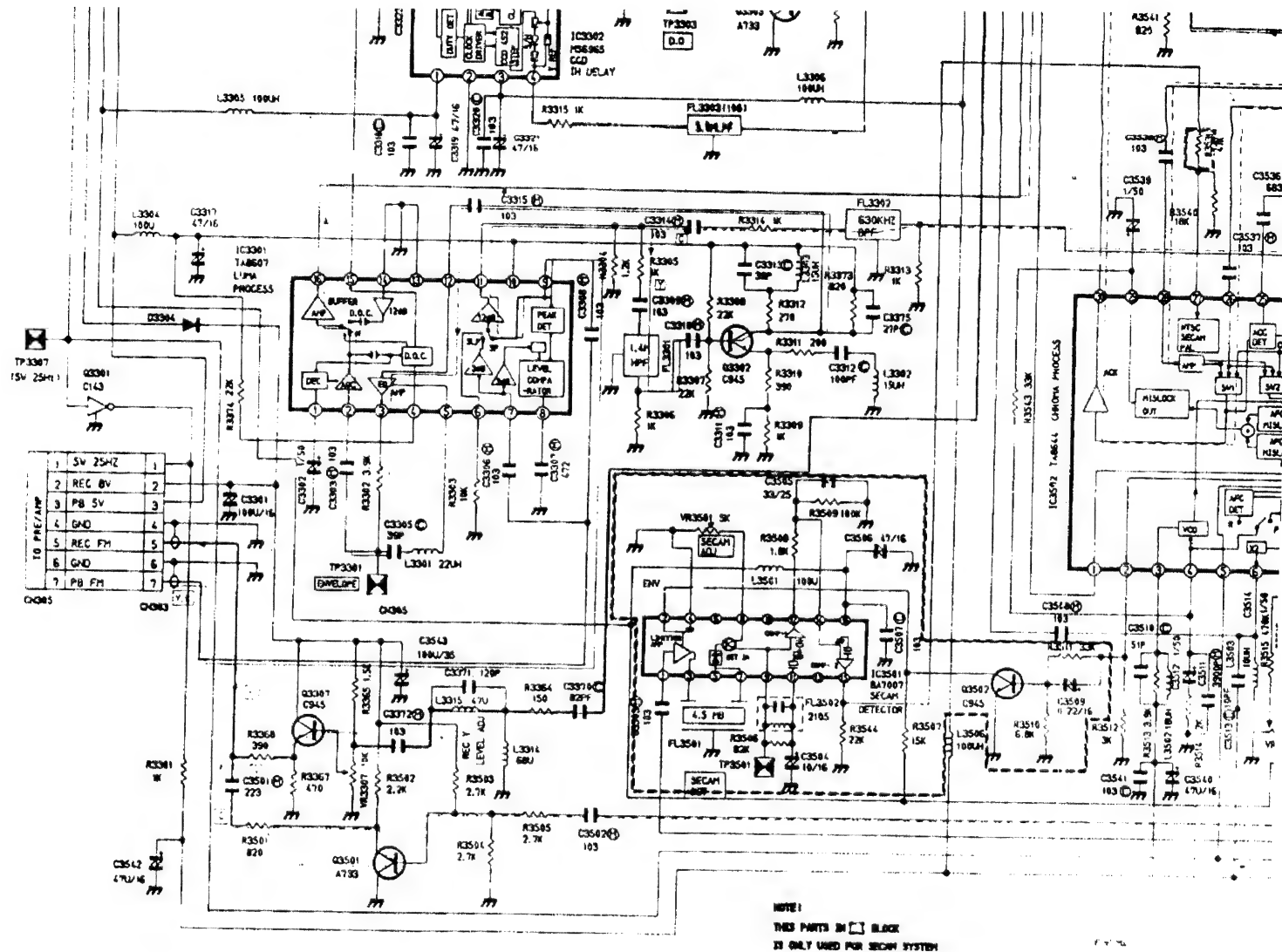
19
IC203-12
0.5V/0.5msec/cm
REC/PLAY

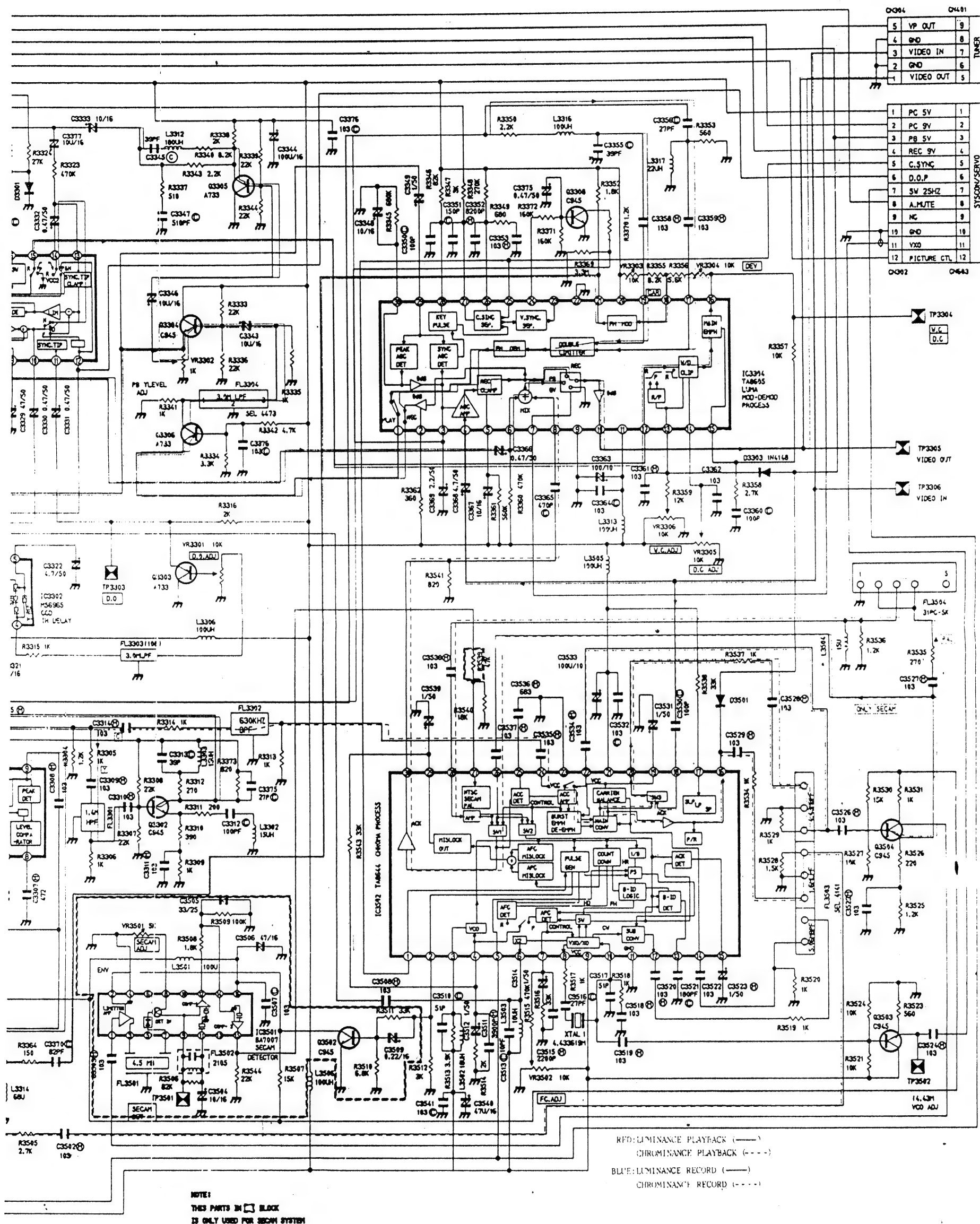


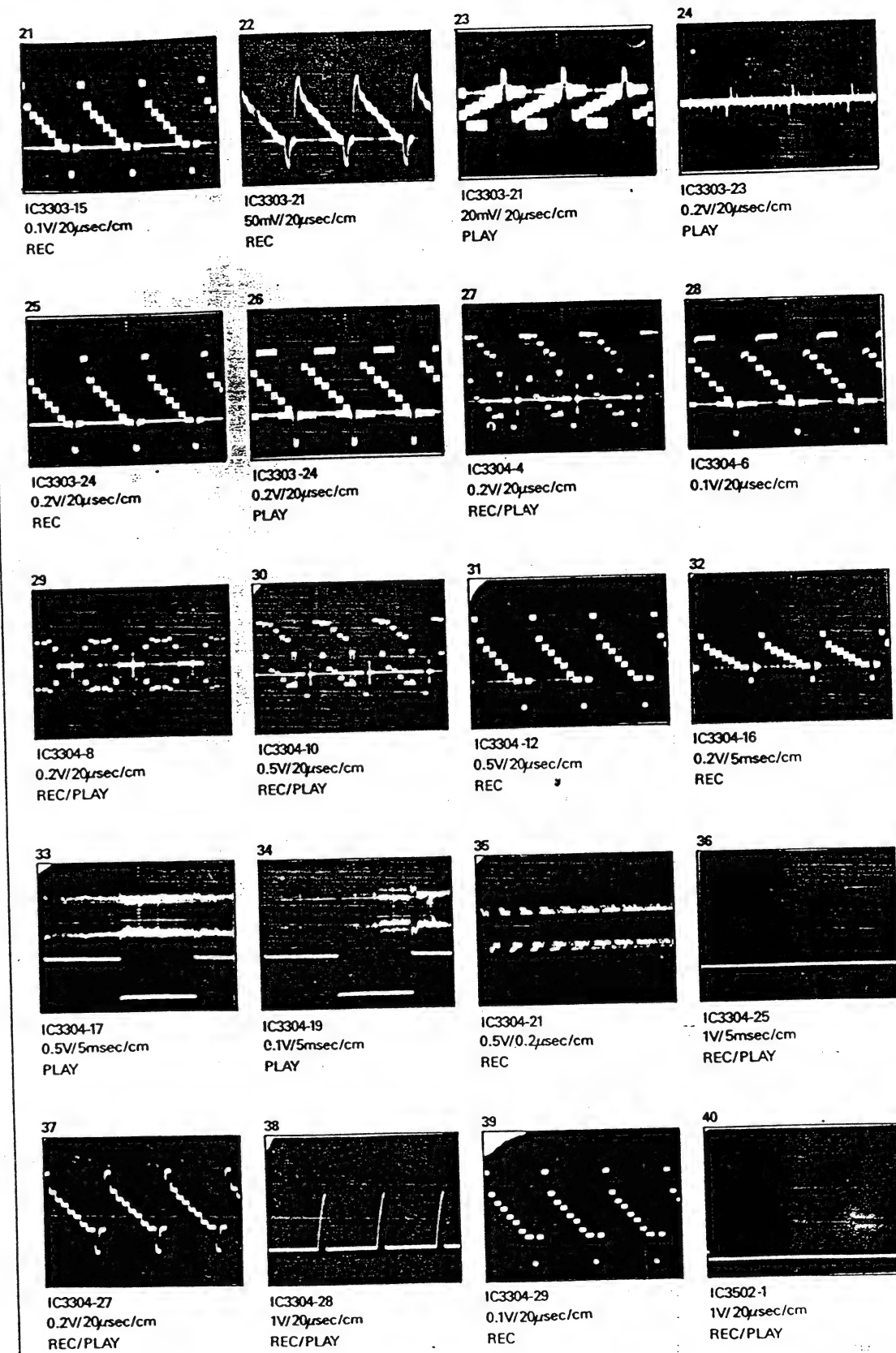
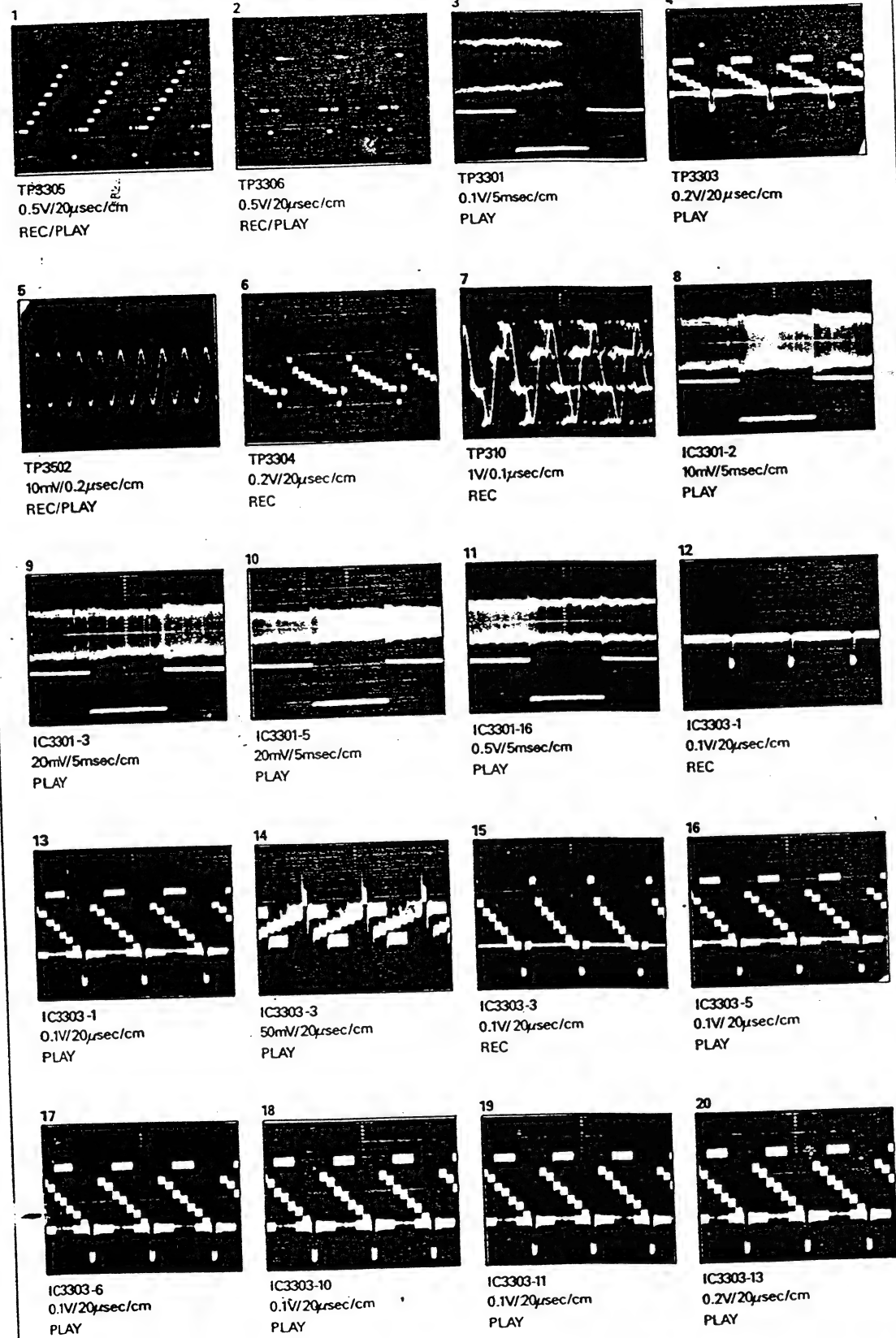
20
IC201-17
0.2V/10msec/cm
REC/PLAY

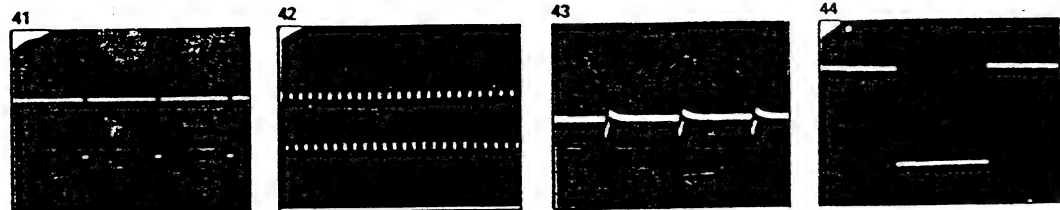
10-5. Luminance/Chrominance









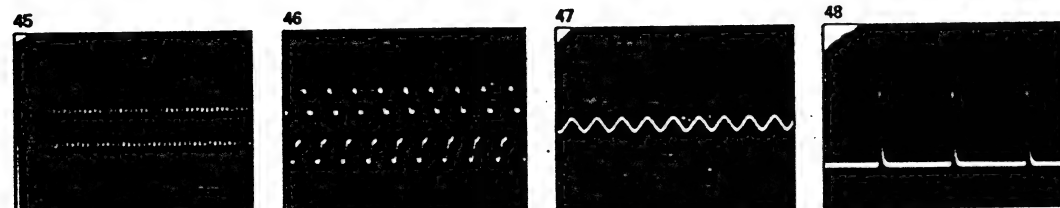


IC3502-2
1V/20 μ sec/cm
REC/PLAY

IC3502-3
0.1V/0.5 μ sec/cm
REC/PLAY

IC3502-4
0.1V/20 μ sec/cm
REC

IC3502-5
1V/5msec/cm
REC/PLAY

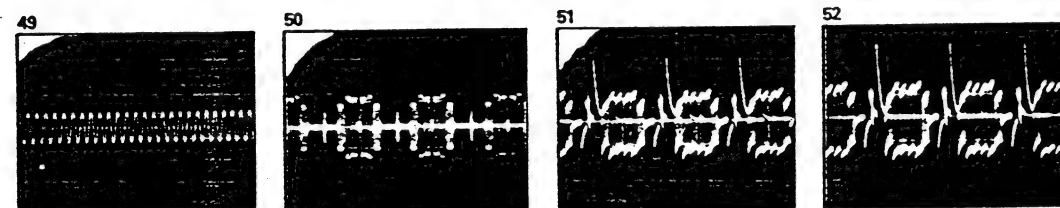


IC3502-6
0.1V/0.5 μ sec/cm
REC/PLAY

IC3502-8
0.5V/0.2 μ sec/cm
REC/PLAY

IC3502-10
0.5V/0.2 μ sec/cm
REC/PLAY

IC3502-13
0.5V/20 μ sec/cm
REC/PLAY

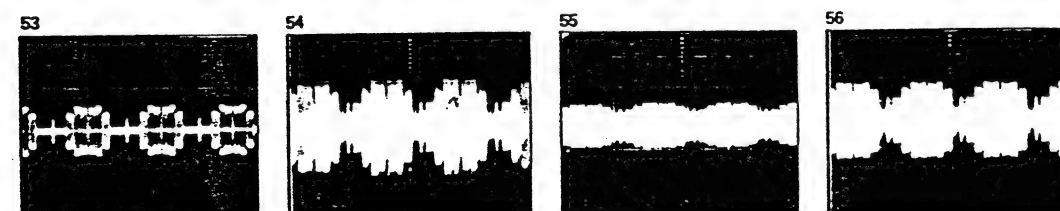


IC3502-14
0.2V/0.5 μ sec/cm
REC/PLAY

IC3502-16
0.5V/20 μ sec/cm
REC

IC3502-18
0.2V/20 μ sec/cm
REC/PLAY

IC3502-20
0.2V/20 μ sec/cm
REC

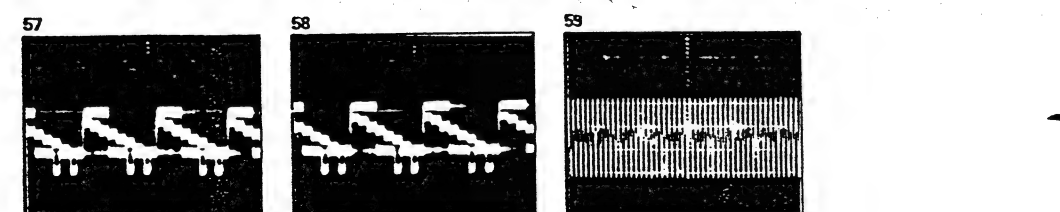


IC3502-22
0.1V/20 μ sec/cm
REC/PLAY

IC3502-24
50mV/20 μ sec/cm
PLAY

IC3502-28
50mV/20 μ sec/cm
REC/PLAY

IC3502-30
0.2V/20 μ sec/cm
REC/PLAY



IC3302-4
0.5V/20 μ sec/cm
PLAY

IC3302-6
0.2V/20 μ sec/cm
PLAY

IC3302-7
50mV/0.5 μ sec/cm
REC/PLAY

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 3301						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0.9	0	0	0.9	0.9
PIN 2	0	0	3.0	0	0	3.0	3.0
PIN 3	0	0	1.5	0	0	1.5	1.5
PIN 4	0	0	2.7	0	0	2.8	2.7
PIN 5	0.5	0	3.5	0	0	3.4	3.5
PIN 6	0	0	0	0	0	0	0
PIN 7	0	0	3.4	0	0	3.4	3.5
PIN 8	0	0	0	0	0	0	0.1
PIN 9	0	0	3.5	0	0	3.4	3.5
PIN 10	0	0	4.9	0	0	4.9	4.9
PIN 11	0	0	2.1	0	0	2.1	2.1
PIN 12	0	0	3.0	0	0	3.0	3.0
PIN 13	0	0	0	0	0	0	0
PIN 14	0	0	0	0	0	0	0
PIN 15	0	0	4.8	0	0	4.8	4.8
PIN 16	0	0	2.0	0	0	2.0	2.0

Main (Luma/Chroma) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 3303						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.2	3.1	3.1	0.2	0.2	3.1	3.1
PIN 2	0	0	0	0	0	0	0
PIN 3	2.4	2.3	2.4	2.4	2.4	2.4	2.4
PIN 4	0.2	5	4.9	0.2	0	5	5.0
PIN 5	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 6	0.6	2.4	2.4	0.6	0.6	2.4	2.4
PIN 7	2.5	2.5	2.4	2.5	2.5	2.5	2.4
PIN 8	0.3	5.0	4.9	0.3	0.3	4.9	4.9
PIN 9	2.0	2.0	2.3	1.9	1.9	2.3	2.3
PIN 10	2.2	2.2	2.5	2.2	2.2	2.5	2.5
PIN 11	2.5	2.5	2.5	2.5	2.5	2.8	2.5
PIN 12	0.2	0	4.8	2.0	0.2	4.8	4.8
PIN 13	2.4	2.5	2.5	2.4	2.4	2.5	2.5
PIN 14	2.0	2.2	2.5	1.9	2.0	2.5	2.5
PIN 15	2.3	2.2	2.4	2.3	2.3	2.4	2.4
PIN 16	0	0	0	0	0	0	0
PIN 17	0	0	0	0	0	0	0
PIN 18	2.7	2.7	2.7	2.7	2.8	2.7	2.7
PIN 19	3.6	3.6	3.6	3.6	3.6	3.6	3.6
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	1.8	2.0	1.9	1.9	1.8	1.9	1.9
PIN 22	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 23	2.8	3.8	3.8	3.9	3.9	3.8	3.8
PIN 24	2.1	2.0	2.0	2.1	2.1	2.0	2.0

Main (Luma/Chroma) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 3304						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	2.7	2.7	2.7	2.7	2.7	2.7	2.7
PIN 2	4.5	5.0	5.0	4.5	4.5	5.0	5.0
PIN 3	2.5	2.4	3.0	2.5	2.5	3.0	3.0
PIN 4	2.1	2.1	2.1	2.1	2.1	2.1	2.1
PIN 5	3.6	3.7	3.3	3.6	3.6	3.3	3.0
PIN 6	3.3	3.2	3.5	3.3	3.3	3.7	3.6
PIN 7	0	0	0	0	0	0	0
PIN 8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
PIN 9	0	0	0	0	0	0	0
PIN 10	1.9	1.5	2.5	1.9	1.9	2.7	2.9
PIN 11	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 12	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 13	1.5	1.5	5.0	1.5	1.5	4.4	4.4
PIN 14	2.0	2.0	2.0	2.0	2.3	2.0	2.0
PIN 15	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 16	2.3	2.2	2.5	2.3	2.3	2.5	2.5
PIN 17	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	5.0	5.0	3.1	5.0	5.0	3.1	3.1
PIN 20	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 21	3.0	3.0	5.0	3.0	3.0	5.0	5.0
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0.9	1.1	0.9	0.9	0.9	0.9	0.9
PIN 25	2.0	4.1	0.4	2.0	2	0.4	0.4
PIN 26	3.6	3.5	3.1	3.6	3.6	3.2	3.4
PIN 27	2.1	2.0	2.0	2.2	2.1	2.2	2.5
PIN 28	1.4	3.7	0.4	1.4	1.4	0.4	0.4
PIN 29	3.0	2.9	3.1	3.0	3.0	3.1	3.4
PIN 30	0	0	0	0	0	0	0

Main (Luma/Chroma) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 3502						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0.8	4	0.4	0.8	0.8	0.8	4.0
PIN 2	3.7	3.8	3.8	3.7	3.7	3.8	3.8
PIN 3	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 4	1.7	1.8	1.7	1.7	1.7	2.3	1.8
PIN 5	4.3	4.3	4.3	4.3	4.3	4.3	4.3
PIN 6	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7	2.2	2.0	2.0	2.2	2.2	2.0	2.0
PIN 8	2.5	2.3	2.3	2.5	2.5	2.3	2.3
PIN 9	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 10	3.2	3.0	3.0	3.1	3.1	3.0	3.0
PIN 11	0	0	0	0	0	0	0
PIN 12	4.3	4.3	4.4	4.3	4.3	4.3	4.3
PIN 13	3.0	3	3.0	3.0	3.0	3.0	3.0
PIN 14	2.7	3	2.7	2.7	2.7	2.7	3.0
PIN 15	2.4	2.4	2.3	2.3	2.3	2.4	2.4
PIN 16	0	0	4.4	0	0	4.4	0
PIN 17	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 18	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 19	2.9	3.0	3.0	2.9	3.0	3.0	3
PIN 20	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PIN 21	5.0	5	5.0	5.0	5.0	5.0	5.0
PIN 22	2.7	2.8	2.8	2.7	2.7	2.8	2.8
PIN 23	0	0	0.0	0	0	0	0.0
PIN 24	1.7	1.7	2.8	1.7	1.7	2.8	1.7
PIN 25	3.8	2.3	4.5	3.8	3.8	4.0	2.3
PIN 26	2.4	2.4	2.3	2.4	2.4	2.3	2.4
PIN 27	0	0	0.0	0	0	0	0.0
PIN 28	2.7	2.7	2.6	2.7	2.7	2.6	2.7
PIN 29	1.7	2.4	2.3	1.8	1.8	2.3	2.4
PIN 30	2.8	2.8	0	2.8	2.8	0	2.8

Main (Luma/Chroma) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 3302						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	9	5	9	9	9	9	9
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	4.9	0	0	4.9	4.9
PIN 4	5.2	0	3.3	5.2	5.2	3.3	3.3
PIN 5	3.0	3.0	3.1	2	3	3.1	3.1
PIN 6	4.4	0	2.4	3.6	3	2.4	2.4
PIN 7	1.8	1.0	1.8	1.8	1.7	1.8	1.8
PIN 8	3.4	2.4	5.1	3.5	3.3	5.1	5.1

Main (Luma/Chroma) C.B.A

10-9

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE	IC 0502						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	0	0	0	0	0	0	0
PIN 2	0	0	0	0	0	0	0
PIN 3	0	0	0	0	0	0	0
PIN 4	0	0	0	0	0	0	0
PIN 5	0	9	0	0	0	0	0
PIN 6	9	9	9	9	9	9	9
PIN 7	0	0	5	0	0	5	5

Main (Audio) C.B.A

PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
Q3302	0	0	0.7	0	0	0.7	0.7
B	0	0	1.4	0	0	1.4	1.4
C	0	0.2	4.6	0	0	4.6	4.6
Q3303	0	0	0	0	0	0	0
B	2	2	1.3	2	2	1.3	1.3
C	0	0	2	0	0	2	2
Q3305	0	0	0	0	0	0	0
B	0.8	0.8	0.9	0.8	0.8	0.9	0.9
C	1.5	1.5	1.6	1.5	1.5	1.6	1.6
Q3304	0	0	0	0	0	0	0
B	0.7	0.7	0.7	0.7	0.7	0.9	0.9
C	1.3	1.3	1.4	1.3	1.3	1.5	1.5
Q3306	0.7	0.7	0.8	0.7	0.7	0.8	0.8
B	2.0	2	2	2	2	2	2
C	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Q3307	0	3.1	0	0	0	0	0
B	0	3.8	0	0	0	0	0
C	0	9	2	0	0	2	2
Q3501	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0
C	0	0.4	0	0	0	0	0
Q3504	3	3	3	3	3	3	3
B	1	1	1	1	1	1	1
C	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Q3503	2.7	2.7	2.7	2.7	2.7	2.7	2.7
B	0.8	0.8	0.8	0.8	0.8	0.8	0.8
C	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Q3502	0.4	0.4	0.4	0.4	0.4	0.4	0.4
B	0.2	0.2	0.2	0.2	0.2	0.2	0.2
C	0	0	0	0	0	0	0
Q3301	0	0	0	0	0	0	0
C	2.2	1.2	1.2	2.2	2.2	1.2	1.2
B	0	1.2	1.2	0	0	1.2	1.2

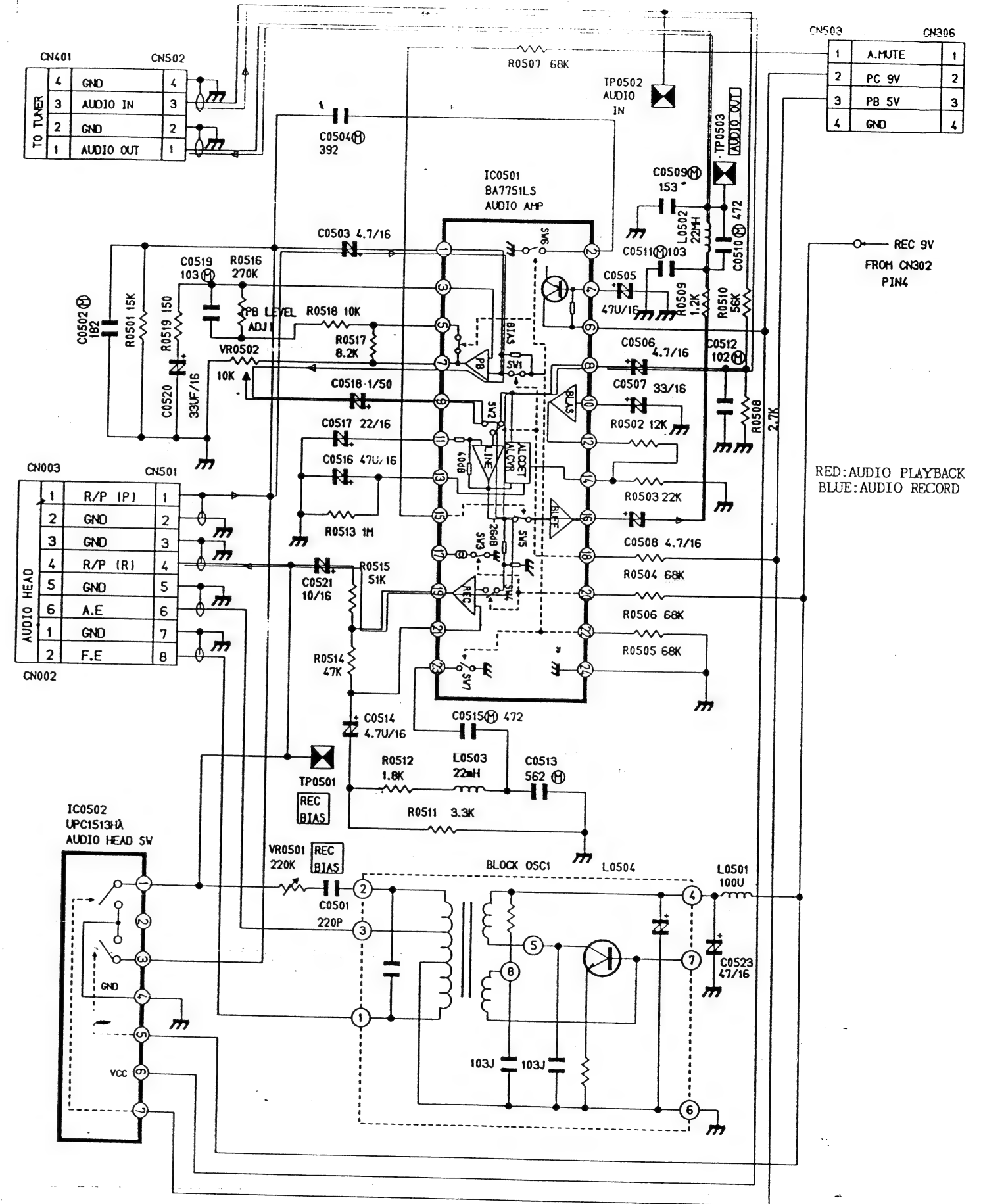
Main (Luma/Chroma) C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

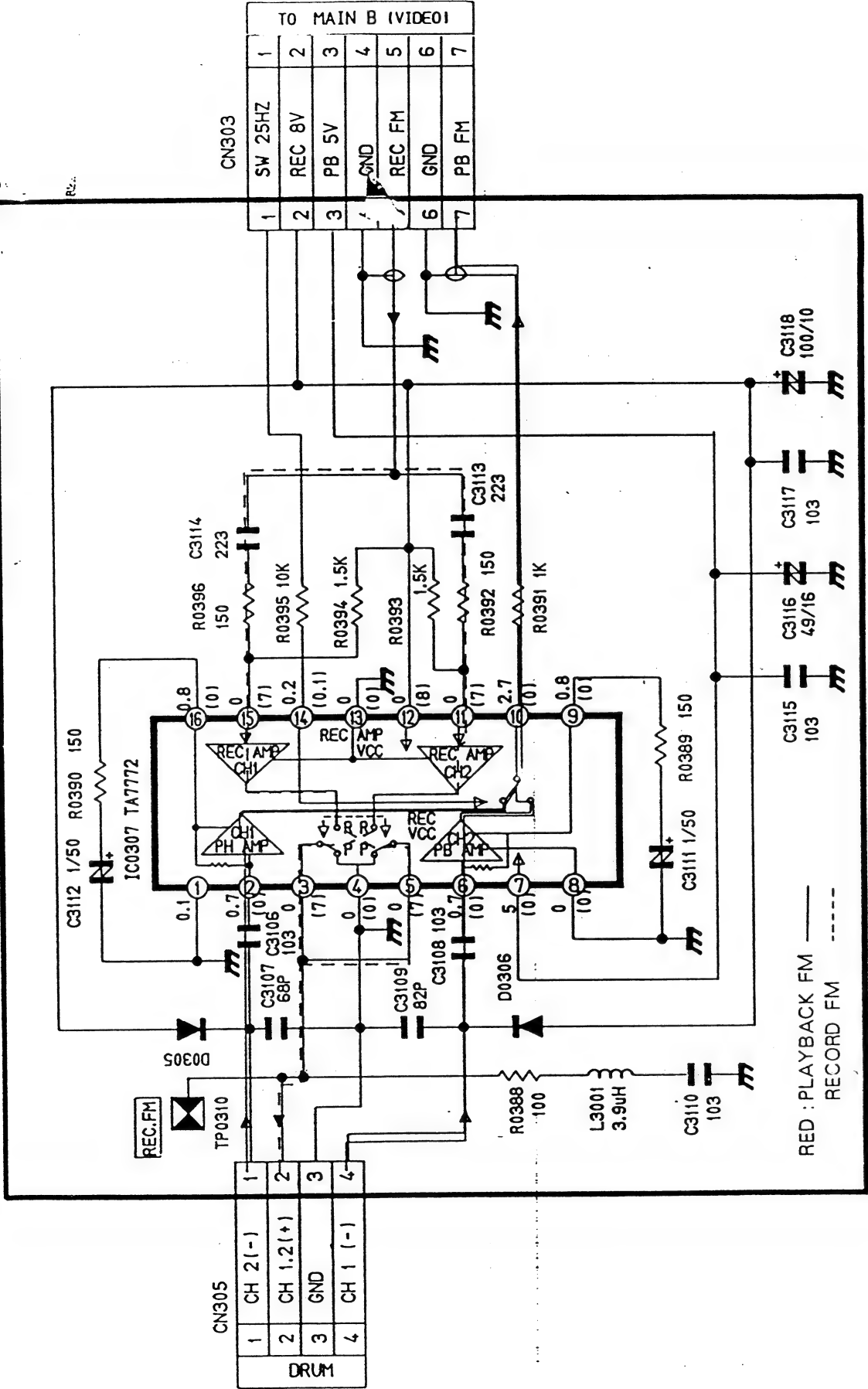
MODE	IC 0501						
PIN NO.	STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 2	0	0	0	0	0	0	0
PIN 3	3.8	4.0	4.0	4.0	4.0	4.0	4.0
PIN 4	9.0	9.0	9.0	9.0	9.0	9.0	9.0
PIN 5	4.0	4.0	4.2	4.0	4.0	4.0	4.0
PIN 6	9.0	9.0	9.0	9.0	0	9.0	9.0
PIN 7	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PIN 8	4.6	4.7	4.6	4.6	4.6	4.7	4.6
PIN 9	4.6	4.4	4.3	4.3	4.6	4.4	4.3
PIN 10	4.6	4.7	4.5	4.7	4.6	4.7	4.6
PIN 11	4.6	4.4	4.3	4.7	4.6	4.4	4.4
PIN 12	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 13	0	0.7	0	0.8	0	0	0
PIN 14	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PIN 15	4.1	4.2	4.0	4.0	4.2	4.2	4.2
PIN 16	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 17	0	0	0	0	0	0	0
PIN 18	0.4	0	4	0.2	0.4	4.2	4.3
PIN 19	4.6	4.8	4.6	4.7	4.6	4.7	4.7
PIN 20	0	5.0	0	0	0	0	0
PIN 21	4.6	4.7	4.6	4.7	4.6	4.7	4.7
PIN 22	0	0	0	0	0	0	0
PIN 23	0	0	0	0	0	0	0
PIN 24	0	0	0	0	0	0	0

Main (Audio) C.B.A

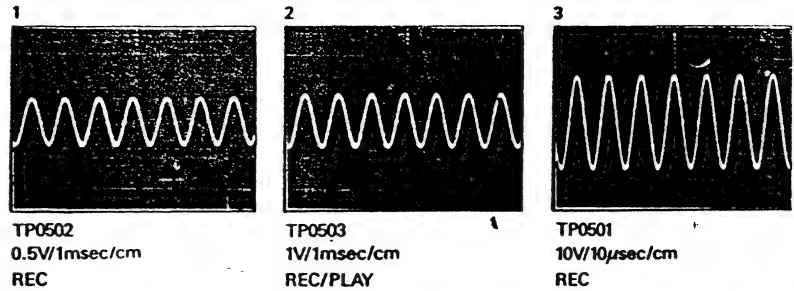
10-6. Audio



10-7. Pre-Amp



AUDIO



MODE		IC 401					
		STOP	REC	PLAY	REW	F.FWD	REV S.
PIN NO.							
PIN 1	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 2	5.8	5.8	5.8	5.8	5.8	5.8	5.8
PIN 3	3	3	3	3	3	3	3
PIN 4	4	4	4	4	4	4	4
PIN 5	4	4	4	4	4	4	4
PIN 6	0	0	0	0	0	0	0
PIN 7	4	4	4	4	4	4	4
PIN 8	4	4	4	4	4	4	4
PIN 9	6	6	6	6	6	6	6
PIN 10	6	6	6	6	6	6	6
PIN 11	9	9	9	9	9	9	9
PIN 12	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 13	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PIN 14	0	0	0	0	0	0	0
PIN 15	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 16	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 17	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 18	4	4	4	4	4	4	4
PIN 19	9.0	9	9	9	9	9	9
PIN 20	5	5	5	5	5	5	5

Main (Tuner/Demodulator) C.B.A

MODE		IC 403					
		STOP	REC	PLAY	REW	F.FWD	REV S.
PIN NO.							
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.4	5.4	5.4	5.4	5.4	5.4	5.4
PIN 9	9.0	9	9	9	9	9	9

Main (Tuner/Demodulator) C.B.A

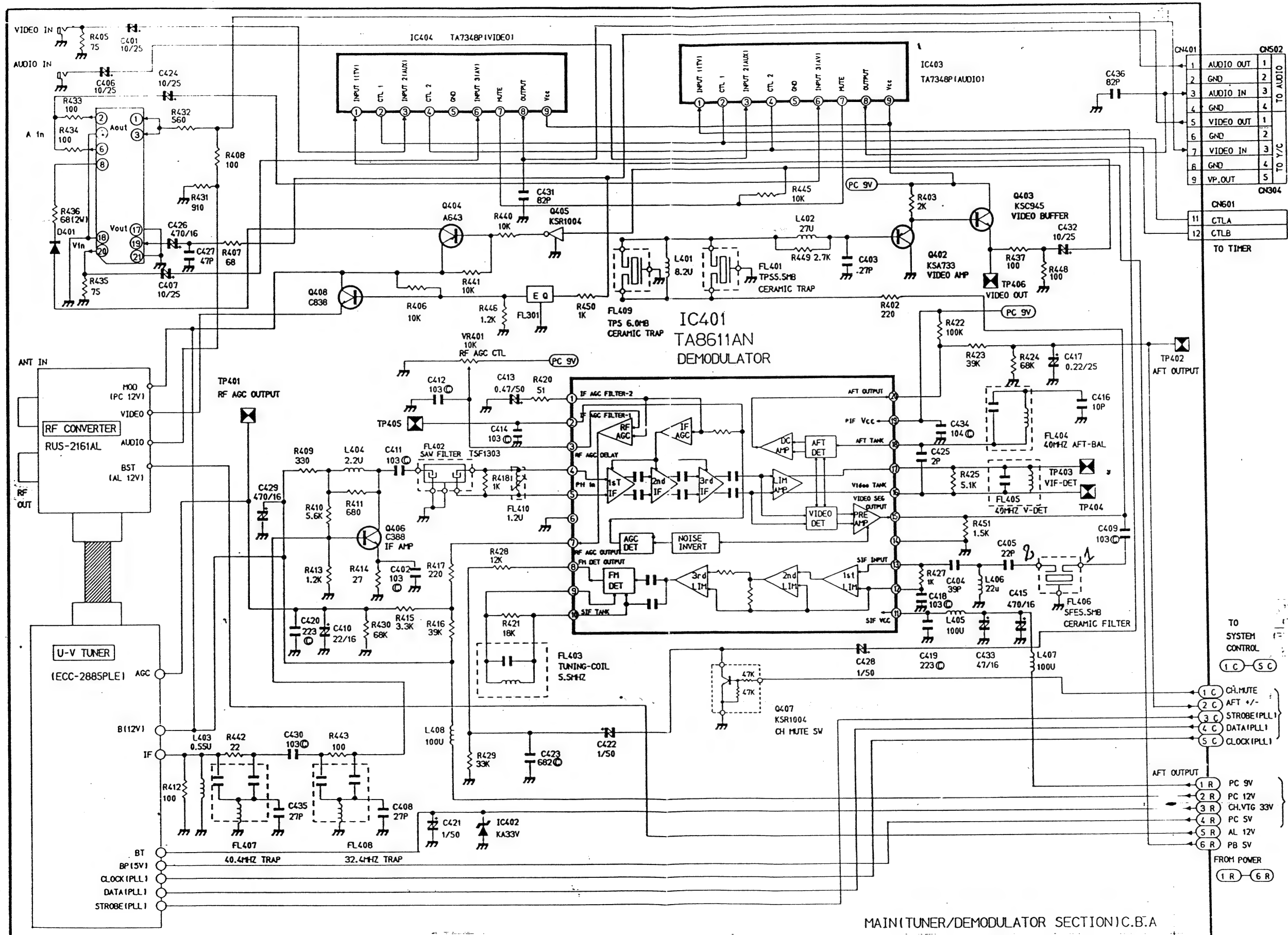
MODE		IC 404					
		STOP	REC	PLAY	REW	F.FWD	REV S.
PIN NO.							
PIN 1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 2	3.8	3.8	3.8	3.8	3.8	3.8	3.8
PIN 3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 4	0	0	0	0	0	0	0
PIN 5	0	0	0	0	0	0	0
PIN 6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
PIN 7	0.2	0	4	0.2	0.2	4	4
PIN 8	5.6	5.6	5.6	5.6	5.6	5.6	5.6
PIN 9	9.2	9.2	9.2	9.2	9.2	9.2	9.2

Main (Tuner/Demodulator) C.B.A

MODE		REV S. : REVERSE SEARCH						FWD S. : FORWARD SEARCH					
		STOP	REC	PLAY	REW	F. FWD	REV. S	FWD. S					
TRNO.		E	C	B	E	C	B	E	C	B	E	C	B
Q 402	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8	0	3.2	3.8
Q 403	3.3	9	4	3.3	9	4	3.3	9	4	3.3	9	4	3.3
Q 404	10	0	10	10	0	10	10	9.2	10	0	10	10	9.2
Q 405	0	10	0.2	0	10	0.2	0	0	5	0	10	0.2	0
Q 406	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9	7.2	0.2	0.9
Q 407	0	2.9	0	0	2.9	0	0	2.9	0	0	2.9	0	0
Q 408	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8	10	1.4	0.8

Main (Tuner/Demodulator) C.B.A

10-8. Tuner



REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		IC 701						
PIN NO.		STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1		30	30	30	30	30	30	30
PIN 2		30	30	30	30	30	30	30
PIN 3		30	30	30	30	30	30	30
PIN 4		30	30	30	30	30	30	30
PIN 5		30	30	30	30	30	30	30
PIN 6		30	30	30	30	30	30	30
PIN 7		30	30	30	30	30	30	30
PIN 8		30	30	30	30	30	30	30
PIN 9		30	30	30	30	30	30	30
PIN 10		30	30	30	30	30	30	30
PIN 11		30	30	30	30	30	30	30
PIN 12		30	30	30	30	30	30	30
PIN 13		30	30	30	30	30	30	30
PIN 14		30	30	30	30	30	30	30
PIN 15		30	30	30	30	30	30	30
PIN 16		30	30	30	30	30	30	30
PIN 17		30	30	30	30	30	30	30
PIN 18		31.2	31.2	31.2	31.2	31.2	31.2	31.2
PIN 19		0	0	0	0	0	0	0
PIN 20		5.1	5.1	5.1	5.1	5.1	5.1	5.1
PIN 21		5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 22		0	0	0	0	0	0	0
PIN 23		0.5	0.5	5.0	0.5	0.5	0.5	0.5
PIN 24		5.0	5.3	5.3	5.3	5.3	5.3	5.3
PIN 25		5.3	5.3	5.3	5.3	5.3	5.3	5.3
PIN 26		30	30	30	30	30	30	30
PIN 27		30	30	30	30	30	30	30
PIN 28		30	30	30	30	30	30	30

Timer/Input Key C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		STOP			REC			PLAY			REW			F.FWD			REV S.			FWD S.		
Tr No.		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 701		0	5.0	0.5	0	5.0	0.5	0	5.0	0.5	0	5.0	0.5	0	5.0	0	0	5.0	0.5	0	5.0	0.5

Timer/Input Key C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		IC 205						
PIN NO.		STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1		0	0	0	0	0	0	0
PIN 2		0.5	0.5	0.5	0.5	0.5	0.5	0.5
PIN 3		0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 4		2.3	14.8	14.7	14.7	14.7	2.2	14.7
PIN 5		5.0	14.7	5.0	5.0	5.0	5.0	5.0
PIN 6		5.0	5.0	5.0	5.0	5.0	5.0	5.0
PIN 7		15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 8		15.0	14.8	14.8	14.7	14.7	14.7	14.7
PIN 9		0.9	0.9	0.9	0.9	0.9	0.9	0.9
PIN 10		0.5	0.5	0.5	0.5	0.5	0.5	0.5

Sub Servo C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

MODE		IC 206						
PIN NO.		STOP	REC	PLAY	REW	F.FWD	REV S.	FWD S.
PIN 1		0	0	0	0	0	0	0
PIN 2		0.5	3.9	2.1	0.1	10.1	0.1	9.5
PIN 3		0.9	5.2	3.5	0.9	11.7	0.9	10.9
PIN 4		1.2	3.7	1.9	10.3	10.2	10.0	9.0
PIN 5		5.0	5.0	5.0	0	5.0	0	5.0
PIN 6		5.0	0	0	5.0	0	5.0	0
PIN 7		14.9	14.8	1.48	14.7	14.7	14.7	14.7
PIN 8		14.9	14.1	14.2	13.8	13.8	13.8	13.8
PIN 9		0.9	0.9	0.9	11.8	0.9	11.0	0.9
PIN 10		0.5	0.1	0.1	9.9	0.1	9.3	0.1

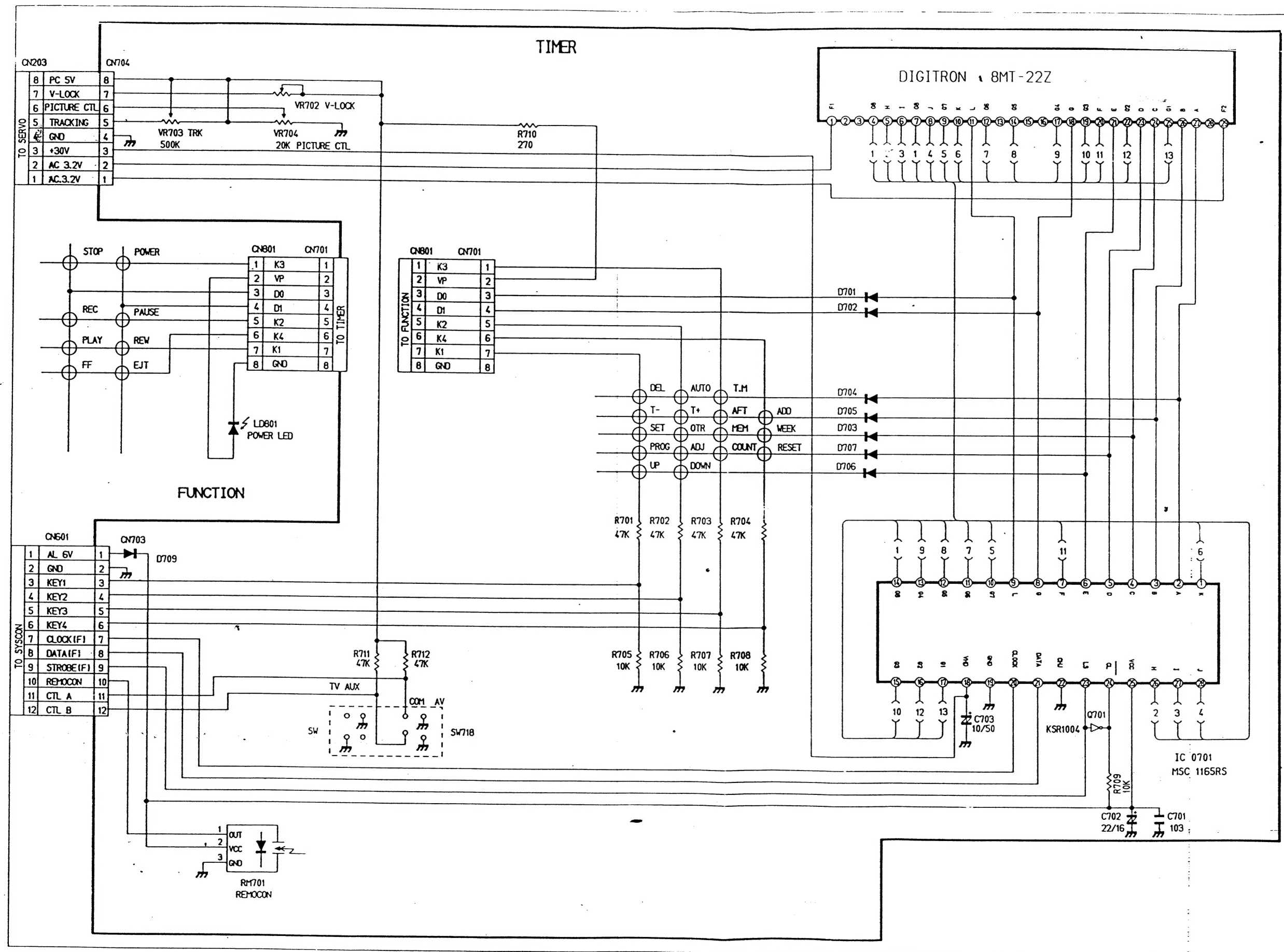
Sub Servo C.B.A

REV S.: REVERSE SEARCH
FWD S.: FORWARD SEARCH

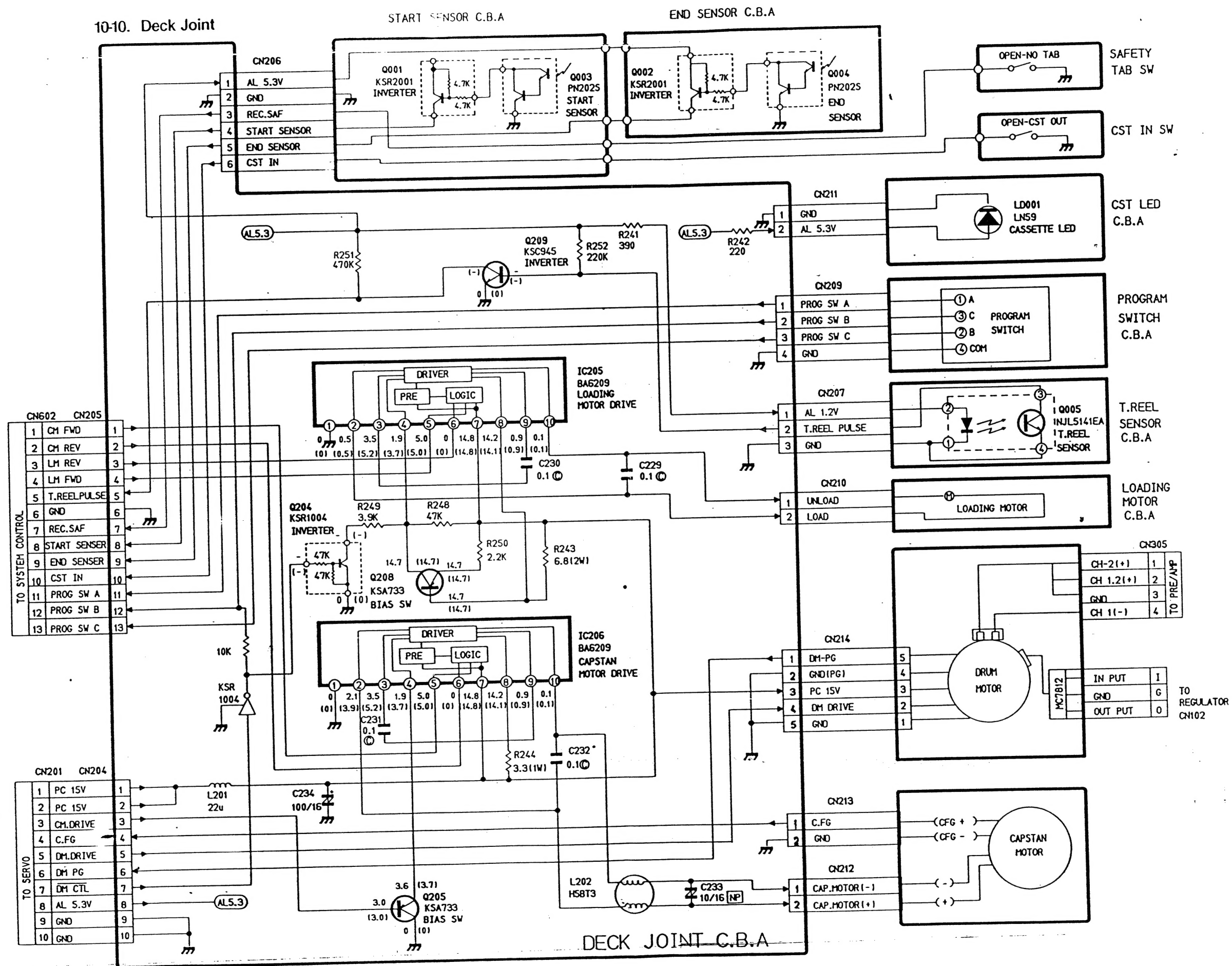
FWD S.: FORWARD SEARCH																					
MODE	STOP			REC			PLAY			REW			F.FWD			REV S.			FWD S.		
Tr No.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
Q 204	0	0	4.9	0	14.7	0	0	14.7	0	0	14.7	0	0	14.7	0	0	0	4.9	0	14.7	0
Q 205	1.0	0	12.6	3.7	0	3.0	3.6	0	3.0	8.9	0	8.3	8.8	0	8.2	9.5	0	8.7	9.3	0	8.6
Q 208	14.9	2.2	14.9	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	2.2	14.7	14.7	14.7	14.7
Q 209	0	5.1	0.1	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—	0	—	—

Sub Servo C.B.A

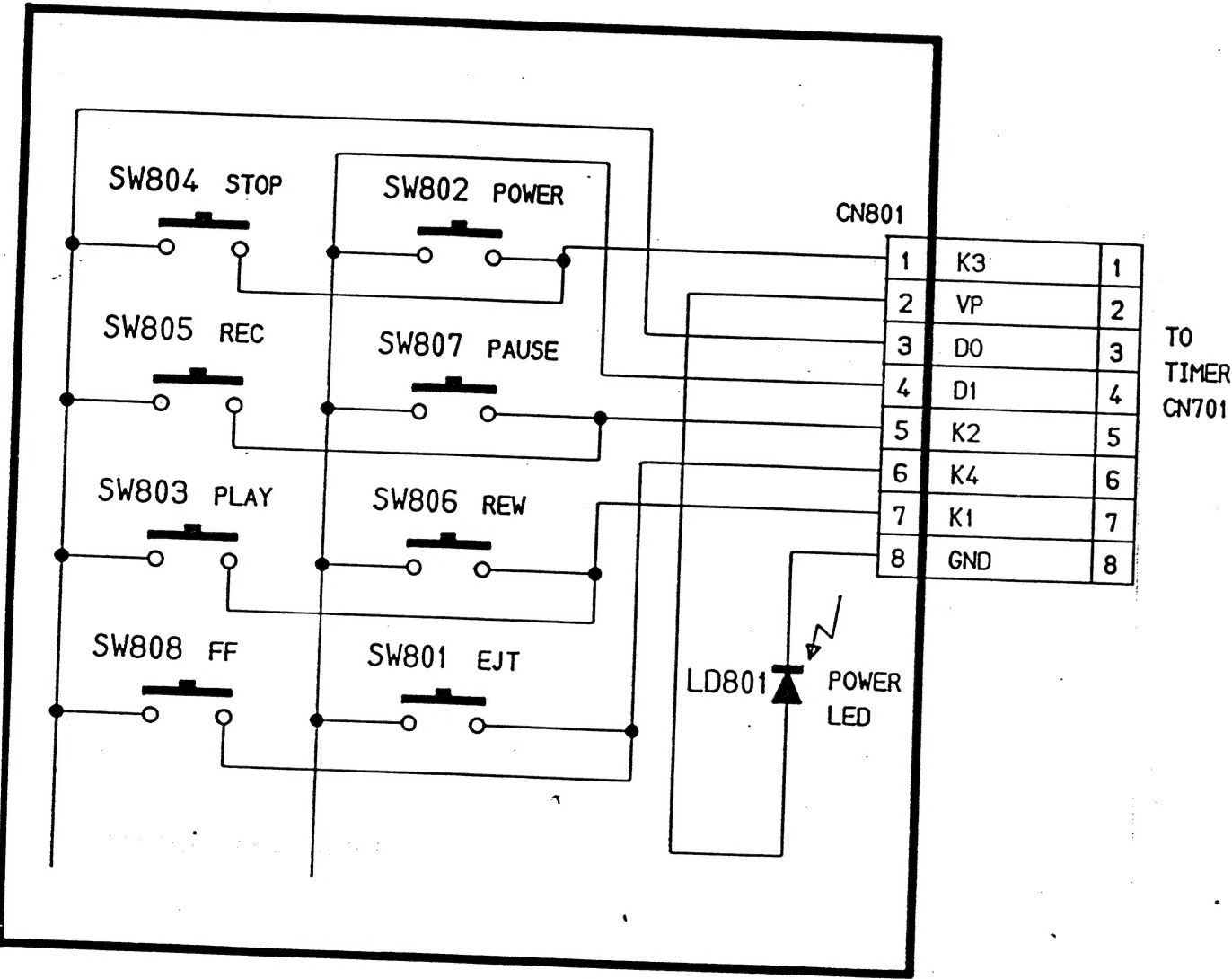
10-9. Timer/Input Key



10-10. Deck Joint



10-11. Function Switch



10-12. Remote Control

